Chapter 8 - Appendix D

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#	End Use	Measure Name	Year by Year Energy Savings (kWh)																		
100		Computers & Office Equipment	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
102	Computers &	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	61,988	79,244	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404	96,404
104	Computers &	Office Equipment	PC Network Energy Management Controls replacing no central control	24,578	31,420	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224	38,224
107	Computers &	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	729	1,482	2,234	2,778	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987
109	Computers &	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	199,305	254,787	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960	309,960
111	Computers &	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	161	247	333	420	535	623	711	734	757	765	765	765	765	765	765	765	765	765
101	Computers &	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160		Water Heating																			
165	Water Heating	Water Heating	Low Flow Faucet Aerator	31,839	40,703	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517	49,517
168	Water Heating	Water Heating	Tank Insulation (electric)	2,922	3,735	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544	4,544
171	Water Heating	Water Heating	Process Cooling Condenser Heat Recovery	3,042	3,888	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730	4,730
151	Water Heating	Water Heating	Heat Pump Water Heater-ROB	2,960	3,784	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604	4,604
153	Water Heating	Water Heating	Efficient Hot Water Pump-ROB	1,610	2,058	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503	2,503
164	Water Heating	Water Heating	HVAC Condenser Heater Recovery Water Heating	1,283	1,640	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996	1,996
176	Water Heating	Water Heating	Heat Pump Water Heater-Early Replacement	752	961	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170	1,170
178	Water Heating	Water Heating	Efficient Hot Water Pump-Early Replacement	1,423	1,819	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213	2,213
167	Water Heating	Water Heating	Hot Water (DHW) Pipe Insulation	4,043	5,168	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287	6,287
166	Water Heating	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	Water Heating	Heat Pump Storage Water Heating-ROB	2,411	3,082	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749	3,749
170	Water Heating	Water Heating	ECM Circulator Pump	630	1,281	1,931	2,401	2,582	2,582	2,582	2,582	2,582	2,582	2,582	2,582	2,582	2,582	2,582	2,582	2,582	2,582
152	Water Heating	Water Heating	Electric Tankless Water Heater-ROB	33	51	69	87	111	129	147	152	157	159	159	159	159	159	159	159	159	159
169	Water Heating	Water Heating	Drain Water Heat Recovery Water Heater	5	8	11	14	17	20	23	24	25	25	25	25	25	25	25	25	25	25
179	Water Heating	Water Heating	Heat Pump Storage Water Heating-Early Replacement	164	334	503	626	673	673	673	673	673	673	673	673	673	673	673	673	673	673
177	Water Heating	Water Heating	Electric Tankless Water Heater-Early Replacement	33	51	69	87	111	130	148	153	158	159	159	159	159	159	159	159	159	159
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300		Building Envelope																			
302	Building Envel	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Building Envel	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Building Envel	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Building Envel	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Building Envel	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Building Envel	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Building Envel	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Building Envel	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Building Envel	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Building Envel	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320		Ventilation																			
322	Ventilation	Ventilation	Variable Speed Drive Control, 15 HP	146,436	187,201	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739
323	Ventilation	Ventilation	Variable Speed Drive Control, 5 HP	146,436	187,201	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739
324	Ventilation	Ventilation	Variable Speed Drive Control, 40 HP	146,436	187,201	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739	227,739
333	Ventilation	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	Ventilation	Destratification Fan (HVLS)	14,213	21,861	29,508	37,156	47,376	55,159	62,942	64,973	67,003	67,680	67,680	67,680	67,680	67,680	67,680	67,680	67,680	67,680
321	Ventilation	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340		Space Cooling - Chillers																			
363	Space coolers	Space Cooling - Chillers	Commercial EMS	12,209	15,608	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988	18,988
368	Space coolers	Space Cooling - Chillers	Setback with Electric Heat	8,957	11,451	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930	13,930
302	Space coolers	Envelope	Energy Efficient Windows-ROB	9,637	12,320	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988	14,988
370	Space coolers	Space Cooling - Chillers	Web Enabled EMS	11,708	14,967	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208	18,208
364	Space coolers	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	864	1,105	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344	1,344
350	Space coolers	Space Cooling - Chillers	Chiller Tune Up	931	1,190	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448	1,448
351	Space coolers	Space Cooling - Chillers	Efficient Chilled Water Pump	739	945	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149	1,149
306	Space coolers	Space Cooling - Chillers	Wall Insulation	1,658	2,120	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579
347	Space coolers	Space Cooling - Chillers	Chilled Hot Water Reset	4,466	5,709	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945	6,945
343	Space coolers	Space Cooling - Chillers	Water Side Economizer	962	1,230	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497	1,497
345	Space coolers	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	2,282	2,917	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549	3,549
348	Space coolers	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	2,147	2,745	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339	3,339
344	Space coolers	Space Cooling - Chillers	VAV System Conversion	244	312	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380
301	Space coolers	Space Cooling - Chillers	Integrated Building Design	18,636	37,883	57,131	71,031	76,378	76,378	76,378	76,378	76,378	76,378	76,378	76,378	76,378	76,378	76,378	76,378	76,378	76,378
346	Space coolers	Space Cooling - Chillers	Motor Belt Replacement	194	248	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
371	Space coolers	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	11,380	14,547	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698	17,698
342	Space coolers	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	11,551	14,766	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964	17,964
309	Space coolers	Envelope	Energy Efficient Windows-Early Replacement	2,005	4,076	6,147	7,642	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218	8,218
369	Space coolers	Space Cooling - Chillers	EMS Pump Scheduling Controls	647	827	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006	1,006
304	Space coolers	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	Space Cooling - Chillers	High Efficiency Pumps-ROB	56	114	172	213	229	229	229	229	229	229	229	229	229	229	229	229	229	229
354	Space coolers	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	997	1,534	2,071	2,607	3,324	3,870	4,416	4,559	4,701	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749
307	Space coolers	Space Cooling - Chillers	Roof Insulation	51	78	106	133	170	198	226	233	241	243	243	243	243	243	243	243	243	243
356	Space coolers	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	173	267	360	453	578	673	768	793	817	826	826	826	826	826	826	826	826	826
357	Space coolers	Space Cooling - Chillers	High Efficiency Pumps-ER	39	59	80	101	128	149	171	176	182	183	183	183	183	183	183	183	183	183
353	Space coolers	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	907	1,394	1,882	2,370	3,022	3,518	4,015	4,144	4,274	4,317	4,317	4,317	4,317	4,317	4,317	4,317	4,317	4,317
355	Space coolers	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	190	292	394	496	632	736	839	867	894	903	903	903	903	903	903	903	903	903
321	Space coolers	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	Space Cooling - Chillers	Window Improvements	12	18	24	30	39	45	51	53	55	55	55	55	55	55	55	55	55	55
362	Space coolers	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360		HVAC Controls																			
369	Space coolers	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380		Space Cooling - Unitary and Split AC																			
363	Space cooling	Space Cooling - Chillers	Commercial EMS	115,311	147,412	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334	179,334
368	Space cooling	Space Cooling - Chillers	Setback with Electric Heat	84,597	108,147	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566	131,566
302	Space cooling	Envelope	Energy Efficient Windows-ROB	91,017	116,355	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551	141,551
370	Space cooling	Space Cooling - Chillers	Web Enabled EMS	110,576	141,359	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969	171,969
364	Space cooling	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	8,163	10,435	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695	12,695
306	Space cooling	Space Cooling - Chillers	Wall Insulation	15,744	20,127	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485	24,485
301	Space cooling	Space Cooling - Chillers	Integrated Building Design	185,610	377,306	569,002	707,450	760,698	760,698	760,698	760,698	760,698	760,698	760,698	760,698	760,698	760,698	760,698	760,698	760,698	760,698
371	Space cooling	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space cooling	Envelope	Energy Efficient Windows-Early Replacement	25,900	52,649	79,398	98,717	106,148	106,148	106,148	106,148	106,148	106,148	106,148	106,148	106,148	106,148	106,148	106,148	106,148	106,148
391	Space cooling	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	9,151	11,699	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232	14,232
369	Space cooling	Space Cooling - Chillers	EMS Pump Scheduling Controls	9,942	12,709	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461	15,461
387	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	1,879	3,820	5,761	7,162	7,701	7,701	7,701	7,701	7,701	7,701	7,701	7,701	7,701	7,701	7,701	7,701	7,701	7,701
304	Space cooling	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#		End Use	Measure Name	Year by Year Energy Savings (kWh)																		
392	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ROB	3,239	6,584	9,929	12,345	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275	13,275
307	Space cooling	Space Cooling - Chillers	Roof Insulation	537	826	1,114	1,403	1,789	2,083	2,377	2,454	2,531	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556
398	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ER	2,473	3,803	5,134	6,464	8,242	9,596	10,950	11,304	11,657	11,775	11,775	11,775	11,775	11,775	11,775	11,775	11,775	11,775	11,775
321	Space cooling	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space cooling	Space Cooling - Chillers	Window Improvements	196	301	407	512	653	761	868	896	924	933	933	933	933	933	933	933	933	933	933
362	Space cooling	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	4,381	6,738	9,095	11,452	14,602	17,001	19,400	20,026	20,652	20,860	20,860	20,860	20,860	20,860	20,860	20,860	20,860	20,860	20,860
384	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space cooling	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space cooling	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space cooling	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space cooling	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	9,039	13,904	18,768	23,632	30,132	35,082	40,032	41,323	42,615	43,045	43,045	43,045	43,045	43,045	43,045	43,045	43,045	43,045	43,045
393	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space cooling	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400			Cooking																			
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500			Lighting																			
555	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ROB	3,612	4,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618	5,618
564	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ER	5,642	7,212	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774	8,774
554	Lighting	Lighting Controls	Lighting Power Density- Exterior-ROB	38,560	49,294	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968	59,968
563	Lighting	Lighting Controls	Lighting Power Density- Exterior-ER	59,657	76,264	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779	92,779
561	Lighting	Lighting Controls	Lighting Power Density - Interior	18,550	23,714	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849	28,849
513	Lighting	Lighting	LED Low Bay Lighting	109,616	140,131	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476	170,476
517	Lighting	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	64,388	82,312	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137	100,137
515	Lighting	Lighting	High Intensity Fluorescent Fixture (replacing HID)	370,472	473,606	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162	576,162
509	Lighting	Lighting	LED Exit Sign	20,498	26,204	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878	31,878
528	Lighting	Lighting	LED Downlight	1,661	2,123	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583	2,583
501	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	182,271	233,012	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470	283,470
556	Lighting	Lighting Controls	Stairwell Bi-Level Control	34,015	43,484	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900	52,900
562	Lighting	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	Lighting Controls	Occupancy Sensor	184,412	235,749	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799	286,799
503	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	133,325	170,441	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349	207,349
548	Lighting	Lighting	LED Specialty replacing incandescent	64,919	82,991	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963	100,963
551	Lighting	Lighting Controls	Exterior Bi-level Controls	51,562	65,916	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189	80,189
524	Lighting	Lighting	LED Screw In Replacing Incandescent	29,143	37,256	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324	45,324
520	Lighting	Lighting	Interior Induction Lighting-ROB	43,896	89,230	134,565	167,307	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900	179,900
553	Lighting	Lighting Controls	Daylight Sensor Controls	429,409	548,949	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821	667,821
559	Lighting	Lighting Controls	Central Lighting Control	290,068	370,818	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117	451,117
550	Lighting	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.1	Lighting	Lighting	Interior Induction Lighting-ER	35,605	72,377	109,149	135,707	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922	145,922
506	Lighting	Lighting	T5 HP replacing T12	234,173	299,363	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189	364,189
537	Lighting	Lighting	LED Grow Light	250,035	319,641	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857	388,857
505	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	17,276	26,573	35,869	45,166	57,588	67,049	76,510	78,978	81,446	82,269	82,269	82,269	82,269	82,269	82,269	82,269	82,269	82,269	82,269
502	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	21,507	43,719	65,932	81,974	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144	88,144
536	Lighting	Lighting	LED Tube Lighting	29,912	46,007	62,102	78,197	99,705	116,085	132,465	136,739	141,012	142,436	142,436	142,436	142,436	142,436	142,436	142,436	142,436	142,436	142,436
560	Lighting	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	44,098	89,642	135,185	168,078	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729	180,729
558	Lighting	Lighting Controls	Occupancy Sensor & Daylight Sensor	43,530	88,488	133,446	165,915	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404	178,404
512	Lighting	Lighting	LED High Bay Lighting	54,179	83,333	112,487	141,640	180,598	210,268	239,937	247,677	255,417	257,997	257,997	257,997	257,997	257,997	257,997	257,997	257,997	257,997	257,997
508	Lighting	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	Lighting Controls	Garage Bi-level Controls	5,702	11,591	17,480	21,733	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369	23,369
542	Lighting	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	40,008	61,536	83,064	104,592	133,359	155,268	177,177	182,893	188,608	190,513	190,513	190,513	190,513	190,513	190,513	190,513	190,513	190,513	190,513
545	Lighting	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
549	Lighting	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.2	Lighting	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600			Refrigeration																			
614	Process coolin	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process coolin	Refrigeration	H.E. Evaporative Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process coolin	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process coolin	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process coolin	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process coolin	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process coolin	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process coolin	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process coolin	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process coolin	Refrigeration	Zero-Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process coolin	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process coolin	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process coolin	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process coolin	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process coolin	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process coolin	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process coolin	Refrigeration	Reach-in Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process coolin	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process coolin	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process coolin	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process coolin	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process coolin	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process coolin	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process coolin	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process coolin	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700			Compressed Air																			
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800			Space Heating																			
363	Space Heating	Space Cooling - Chillers	Commercial EMS	27,132	34,685	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196	42,196
368	Space Heating	Space Cooling - Chillers	Setback with Electric Heat	19,905	25,446	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957	30,957
302	Space Heating	Envelope	Energy Efficient Windows-ROB	21,416	27,378	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306	33,306
370	Space Heating	Space Cooling - Chillers	Web Enabled EMS	26,018	33,261	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463	40,463
364	Space Heating	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	1,921	2,455	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987	2,987
306	Space Heating	Space Cooling - Chillers	Wall Insulation	3,704	4,736	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761	5,761
806	Space Heating	Space Heating	VFD Pump	6,003	7,675	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336	9,336
301	Space Heating	Space Cooling - Chillers	Integrated Building Design	43,116	87,645	132,175	164,335	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704	176,704
371	Space Heating	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	Envelope	Energy Efficient Windows-Early Replacement	5,203	10,577	15,951	19,832	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325	21,325
369	Space Heating	Space Cooling - Chillers	EMS Pump Scheduling Controls	2,328	2,977	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621	3,621
304	Space Heating	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ROB	7,577	11,654	15,730	19,807	25,255	29,404	33,553	34,636	35,718	36,079	36,079	36,079	36,079	36,079	36,079	36,079	36,079	36,079	36,079
307	Space Heating	Space Cooling - Chillers	Roof Insulation	126	194	262	330	421	490	559	577	595	601	601	601	601	601	601	601	601	601	601

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#		End Use	Measure Name	Year by Year Energy Savings (kWh)																		
805	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating	233	358	484	609	777	904	1,032	1,065	1,099	1,110	1,110	1,110	1,110	1,110	1,110	1,110	1,110	1,110	1,110
332	Space Heating	Ventilation	Destratification Fan (HVLS)	8,825	13,574	18,322	23,071	29,416	34,249	39,082	40,342	41,603	42,023	42,023	42,023	42,023	42,023	42,023	42,023	42,023	42,023	42,023
321	Space Heating	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	Space Cooling - Chillers	Window Improvements	34	52	70	88	112	130	148	153	158	160	160	160	160	160	160	160	160	160	160
362	Space Heating	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ER	2,814	4,328	5,842	7,356	9,379	10,920	12,461	12,863	13,265	13,399	13,399	13,399	13,399	13,399	13,399	13,399	13,399	13,399	13,399
365	Space Heating	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900			Other																			
913	Other	Other	Engine Block Heater Timer	2,608	3,334	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055	4,055
911	Other	Other	Parking Garage Exhaust Fan CO Control	1,229	2,498	3,768	4,684	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037	5,037
903	Other	Other	NEMA Premium Transformer, three-phase-ROB	93	143	193	243	309	360	411	424	438	442	442	442	442	442	442	442	442	442	442
909	Other	Other	High Efficiency Transformer, three-phase-ROB	98	151	203	256	326	380	433	447	461	466	466	466	466	466	466	466	466	466	466
901	Other	Other	High Efficiency Transformer, single-phase-ROB	99	152	205	258	329	383	437	451	465	469	469	469	469	469	469	469	469	469	469
902	Other	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000			Machine Drive																			
1022	Machine Drive	Machine Drive	Air-Entraining Air Nozzles	163,749	209,333	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664	254,664
1006	Machine Drive	Machine Drive	Advanced Lubricants	1,962,324	2,508,601	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826
1010	Machine Drive	Machine Drive	Compressed Air System Management	2,972,050	3,799,418	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162
1018	Machine Drive	Machine Drive	Storage Tank Addition (comp air)	83,862	107,207	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423	130,423
1023	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	108,314	138,467	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451	168,451
1029	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	717,785	917,604	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307	1,116,307
1019	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - ROB	88,322	112,909	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359	137,359
1030	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	839,781	1,073,561	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036	1,306,036
1016	Machine Drive	Machine Drive	Elec motors replacing pneumatic (comp air)	290,824	371,785	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293	452,293
1008	Machine Drive	Machine Drive	Pump System Efficiency Improvements	681,321	870,989	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597	1,059,597
1015	Machine Drive	Machine Drive	Compressed Air Audits and Leak Repair	4,948,726	6,326,365	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308
1025	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	108,103	138,197	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122	168,122
1007	Machine Drive	Machine Drive	Motor System Optimization (Including ASD)	2,153,359	2,752,816	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925	3,348,925
1003	Machine Drive	Machine Drive	Electric Supply System Improvements	488,684	624,725	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007	760,007
1014	Machine Drive	Machine Drive	High Efficiency Pumps - ROB	248,921	318,216	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124	387,124
1028	Machine Drive	Machine Drive	Synchronous belt drives	1,488,770	1,903,218	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350	2,315,350
1024	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	92,018	117,634	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107	143,107
1001	Machine Drive	Machine Drive	Sensors & Controls	183,304	234,333	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077	285,077
1013	Machine Drive	Machine Drive	VFD for Process Pumps	1,095,240	1,400,136	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329	1,703,329
1012	Machine Drive	Machine Drive	VFD for Process Fans	308,851	394,829	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328	480,328
1005	Machine Drive	Machine Drive	Industrial Motor Management	246,042	314,536	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648	382,648
1027	Machine Drive	Machine Drive	Receiver Capacity Addition	103,905	132,830	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593	161,593
1009	Machine Drive	Machine Drive	Fan System Improvements	54,211	69,302	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309	84,309
1021	Machine Drive	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	30,255	61,501	92,748	115,315	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994	123,994
1026	Machine Drive	Machine Drive	High Efficiency Pumps - Early Replacement	63,387	128,852	194,317	241,598	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782	259,782
1017	Machine Drive	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	55,699	71,205	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624	86,624
1031	Machine Drive	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	50,500	77,674	104,848	132,021	168,333	195,988	223,643	230,857	238,071	240,476	240,476	240,476	240,476	240,476	240,476	240,476	240,476	240,476	240,476
1011	Machine Drive	Machine Drive	Compressed Air - Advanced Compressor Controls	68,844	88,010	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068	107,068
1002	Machine Drive	Machine Drive	Energy Information System	51,525	65,868	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131	80,131
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1040			Process Cooling & Refrigeration																			
1048	Process Cooli	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	56,475	72,197	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831	87,831
1049	Process Cooli	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	67,837	86,722	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501	105,501
1046	Process Cooli	Process Cooling & Refrig	Floating Head Pressure Control	99,924	127,741	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403	155,403
1043	Process Cooli	Process Cooling & Refrig	Electric Supply System Improvements	97,226	124,292	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207	151,207
1041	Process Cooli	Process Cooling & Refrig	Sensors & Controls	81,131	103,716	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175	126,175
1044	Process Cooli	Process Cooling & Refrig	Improved Refrigeration	308,034	393,786	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058	479,058
1047	Process Cooli	Process Cooling & Refrig	Refrigerant charging correction	420,467	537,518	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914	653,914
1042	Process Cooli	Process Cooling & Refrig	Energy Information System	22,939	29,325	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675	35,675
1045	Process Cooli	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050			Process Heating																			
1053	Process Heati	Process Heating	Electric Supply System Improvements	183,227	234,234	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956	284,956
1051	Process Heati	Process Heating	Sensors & Controls	155,834	199,215	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355	242,355
1054	Process Heati	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	25,301	51,431	77,562	96,434	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692	103,692
1052	Process Heati	Process Heating	Energy Information System	57,517	73,529	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451	89,451
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1060			Industrial Other																			
1063	Industrial Othe	Other	Barrel Insulation - Inj. Molding (plastics)	2,143	2,740	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333	3,333
1066	Industrial Othe	Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	9,714	12,418	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107	15,107
1062	Industrial Othe	Other	3 Phase High Eff Battery Charger - ROB	1,108	1,416	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723
1069	Industrial Othe	Other	Hybrid Injection Molding Machine - ROB	3,167	4,049	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926	4,926
1061	Industrial Othe	Other	High Efficiency Welders - ROB	90	183	276	343	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369
1076	Industrial Othe	Other	On-Demand ventilation control for Dust and Fume Collection Systems	2,751	3,517	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279	4,279
1064	Industrial Othe	Other	Pellet Dryer Insulation (plastics)	1,575	2,014	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450	2,450
1075	Industrial Othe	Other	Industrial Air Curtain	2,743	5,575	8,407	10,453	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240	11,240
1067	Industrial Othe	Other	Lab Fume Hood Ventilation Reduction	285	580	874	1,087	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169	1,169
1071	Industrial Othe	Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	310	477	643	810	1,033	1,203	1,372	1,417	1,461	1,476	1,476	1,476	1,476	1,476	1,476	1,476	1,476	1,476	1,476
1070	Industrial Othe	Other	3 Phase High Eff Battery Charger - Early Replacement	293	596	898	1,117	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201	1,201
1065	Industrial Othe	Other	Injection Molding Machine - efficient (plastics)	364	560	756	951	1,213	1,412	1,612	1,664	1,716	1,733	1,733	1,733	1,733	1,733	1,733	1,733	1,733	1,733	1,733
1072	Industrial Othe	Other	High Efficiency Welders - Early Replacement	57	87	117	148	189	220	250	259	267	269	269	269	269	269	269	269	269	269	269
1073	Industrial Othe	Other	High Speed Turbo Blower for Wastewater	80	123	167	210	268	312	356	367	378	382	382	382	382	382	382	382	382	382	382
1074	Industrial Othe	Other	Hybrid Injection Molding Machine - Early Replacement	920	1,416	1,911	2,406	3,068	3,572	4,076	4,208	4,339	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383
1068	Industrial Othe	Other	Process Fan Ventilation Reduction	1,290	1,983	2,677	3,371	4,299	5,005	5,711	5,895	6,079	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141
1080			Agriculture																			
1093	Agricultural	Agriculture	Fan Thermostat Controller	63,999	81,816	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533	99,533
1081	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	11,047	14,123	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181	17,181
1086	Agricultural	Agriculture	Milk Pre-Cooler Heat Exchanger	61,338	78,414	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394	95,394
1092	Agricultural	Agriculture	Low Pressure Sprinkler Nozzles	23,063	29,484	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868	35,868
1088	Agricultural	Agriculture	VFD for Process Fans - Agriculture	9,328	18,961	28,595	35,553	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229	38,229
1091	Agricultural	Agriculture	Grain Storage Temperature and Moisture Management Controller	5,525	8,498	11,471	14,444	18,417	21,442	24,468	25,257	26,046	26,310	26,310	26,310	26,310	26,310	26,310	26,310	26,310	26,310	26,310
1089	Agricultural	Agriculture	VFD for Process Pumps - Agriculture	11,767	18,099	24,431	30,763	39,224	45,668	52,112	53,793	55,475	56,035	56,035	56,035	56,035	56,035	56,035	56,035	56,035	56,035	56,035
1094	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	1,571	2,416	3,261	4,106	5,235	6,096	6,956	7,180	7,404	7,479	7,479	7,479	7,479	7,479	7,479	7,479	7,479	7,479	7,479
1087	Agricultural	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	7,696	15,643	23,591	29,331	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539	31,539
1095	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	14,078	17,998	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895	21,895
1083	Agricultural	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	Agriculture	VFD for Process Pumps - Irrigation	14,719	22,639	30,560	38,480	49,063	57,124	65,184	67,287	69,390	70,091	70,091	70,091	70,091	70,091	70,091	70,091	70,091	70,091	70,091
1082	Agricultural	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Totals (*1000)		26,243	34,091	41,899	42,515	42,896	43,050	43,205	43,245	43,285	43,299	43,299	43,299	43,299	43,299	43,299	43,299	43,299	43,299	43,299

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#	End Use	Measure Name	STATUS	Total Units	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
					Year by Year Units Installed																			
100		Computers & Office Equipment	#	Total Units	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
102	Computers &	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	1,141	42	54	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	10	10
104	Computers &	Office Equipment	PC Network Energy Management Controls replacing no central control	3,305	123	157	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	31	31
107	Computers &	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	299	4	9	14	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	2	2
109	Computers &	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	3,669	136	174	212	212	212	212	212	212	212	212	212	212	212	212	212	212	212	212	35	35
111	Computers &	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	70	1	2	2	3	3	4	4	5	5	5	5	5	5	5	5	5	5	5	1	1
101	Computers &	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	Appliances, Computers, Office Equipment	Energy Star UPS - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150		Water Heating																						
165	Water Heating	Water Heating	Low Flow Faucet Aerator	921	35	45	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	7	7
168	Water Heating	Water Heating	Tank Insulation (electric)	163	6	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	1	1
171	Water Heating	Water Heating	Process Cooling Condenser Heat Recovery	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
151	Water Heating	Water Heating	Heat Pump Water Heater-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	Water Heating	Water Heating	Efficient Hot Water Pump-ROB	80	3	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0
164	Water Heating	Water Heating	HVAC Condenser Heater Recovery Water Heating	9	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
176	Water Heating	Water Heating	Heat Pump Water Heater-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	Water Heating	Water Heating	Efficient Hot Water Pump-Early Replacement	71	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	1
167	Water Heating	Water Heating	Hot Water (DHW) Pipe Insulation	2,360	90	116	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	18	18
166	Water Heating	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	Water Heating	Heat Pump Storage Water Heating-ROB	145	6	7	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	1	1
170	Water Heating	Water Heating	ECM Circulator Pump	8	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
152	Water Heating	Water Heating	Electric Tankless Water Heater-ROB	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	Water Heating	Water Heating	Drain Water Heat Recovery Water Heater	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	Water Heating	Water Heating	Heat Pump Storage Water Heating-Early Replacement	25	0	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0
177	Water Heating	Water Heating	Electric Tankless Water Heater-Early Replacement	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300		Building Envelope																						
302	Building Envel	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Building Envel	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Building Envel	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Building Envel	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Building Envel	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Building Envel	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Building Envel	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Building Envel	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Building Envel	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Building Envel	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320		Ventilation																						
322	Ventilation	Ventilation	Variable Speed Drive Control, 15 HP	211	7	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	2	2
323	Ventilation	Ventilation	Variable Speed Drive Control, 5 HP	634	22	29	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	7	7
324	Ventilation	Ventilation	Variable Speed Drive Control, 40 HP	79	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	1
333	Ventilation	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	Ventilation	Destratification Fan (HVLS)	63,335	856	1,317	1,778	2,238	2,854	3,323	3,792	3,914	4,036	4,077	4,077	4,077	4,077	4,077	4,077	4,077	4,077	4,077	774	774
321	Ventilation	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340		Space Cooling - Chillers																						
363	Space coolers	Space Cooling - Chillers	Commercial EMS	346	12	16	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	3	3
368	Space coolers	Space Cooling - Chillers	Setback with Electric Heat	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
302	Space coolers	Envelope	Energy Efficient Windows-ROB	74	3	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0
370	Space coolers	Space Cooling - Chillers	Web Enabled EMS	134	5	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	1	1
364	Space coolers	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
350	Space coolers	Space Cooling - Chillers	Chiller Tune Up	101	4	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1	1
351	Space coolers	Space Cooling - Chillers	Efficient Chilled Water Pump	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space coolers	Space Cooling - Chillers	Wall Insulation	30	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0
347	Space coolers	Space Cooling - Chillers	Chilled Hot Water Reset	585	21	26	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	5	5
343	Space coolers	Space Cooling - Chillers	Water Side Economizer	26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
345	Space coolers	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	302	11	14	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	1	1
348	Space coolers	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	296	10	13	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	1	1
344	Space coolers	Space Cooling - Chillers	VAV System Conversion	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space coolers	Space Cooling - Chillers	Integrated Building Design	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
346	Space coolers	Space Cooling - Chillers	Motor Belt Replacement	58	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1
371	Space coolers	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	778	27	35	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	4	4
342	Space coolers	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	791	28	36	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	4	4
309	Space coolers	Envelope	Energy Efficient Windows-Early Replacement	38	1	1	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0
369	Space coolers	Space Cooling - Chillers	EMS Pump Scheduling Controls	12	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
304	Space coolers	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	Space Cooling - Chillers	High Efficiency Pumps-ROB	19	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
354	Space coolers	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	248	3	5	7	9	11	13	15	15	16	16	16	16	16	16	16	16	16	16	2	2
307	Space coolers	Space Cooling - Chillers	Roof Insulation	40	1	1	1	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	0	0
356	Space coolers	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	136	2	3	4	5	6	7	8	8	9	9	9	9	9	9	9	9	9	9	1	1
357	Space coolers	Space Cooling - Chillers	High Efficiency Pumps-ER	14	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
353	Space coolers	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	299	4	6	8	11	13	16	18	19	19	19	19	19	19	19	19	19	19	19	3	3
355	Space coolers	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	82	1	2	2	3	4	4	5	5	5	5	5	5	5	5	5	5	5	5	1	1
321	Space coolers	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	Space Cooling - Chillers	Window Improvements	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
366	Space coolers	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360		HVAC Controls																						
369	Space coolers	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380		Space Cooling - Unitary and Split AC																						
363	Space cooling	Space Cooling - Chillers	Commercial EMS	3,272	116	148	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	28	28
368	Space cooling	Space Cooling - Chillers	Setback with Electric Heat	187	7	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	2	2
302	Space cooling	Envelope	Energy Efficient Windows-ROB	694	28	36	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	3	3
370	Space cooling	Space Cooling - Chillers	Web Enabled EMS	1,261	45	57	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	11	11
364	Space cooling	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	174	6	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	2	2
306	Space cooling	Space Cooling - Chillers	Wall Insulation	286	12	15	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	2	2
301	Space cooling	Space Cooling - Chillers	Integrated Building Design	81	1	2	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1	1
371	Space cooling	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space cooling	Envelope	Energy Efficient Windows-Early Replacement	489	8	16	25	31	33	33	33	33	33	33	33	33	33	33	33	33	33	33	4	4
381	Space cooling	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	2,397	85	108	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	21	21
369	Space cooling	Space Cooling - Chillers	EMS Pump Scheduling Controls	185	7	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	2	2
387	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	1,996	28	58	87	109	117	117	117	117	117	117	117	117	117	117	117	117	117	117	12	12
304	Space cooling	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#	End Use		Measure Name	STATUS	Year by Year Units Installed																				
392	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ROB		1,437	21	42	63	78	84	84	84	84	84	84	84	84	84	84	84	84	84	84	9	9
307	Space cooling	Space Cooling - Chillers	Roof Insulation		484	7	10	14	17	22	25	29	30	31	31	31	31	31	31	31	31	31	31	4	4
398	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ER		1,158	16	24	32	41	52	61	69	72	74	75	75	75	75	75	75	75	75	75	10	10
321	Space cooling	Ventilation	Economizer		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space cooling	Space Cooling - Chillers	Window Improvements		40	1	1	1	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	0	0
362	Space cooling	HVAC Controls	Programmable Thermostats		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB		3,601	49	75	101	127	162	189	216	223	229	232	232	232	232	232	232	232	232	232	22	22
384	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space cooling	Space Cooling - Chillers	HVAC Occupancy Sensors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space cooling	Envelope	Cool Roofing-ROB		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space cooling	HVAC Controls	Zoning		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space cooling	Envelope	Improved Duct Sealing		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB		12,158	164	253	341	430	548	638	728	751	775	783	783	783	783	783	783	783	783	783	75	75
393	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space cooling	Envelope	Cool Roofing-ER		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400			Cooking																						
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500			Lighting																						
555	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ROB		12	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
584	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ER		18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
554	Lighting	Lighting Controls	Lighting Power Density- Exterior-ROB		253	9	11	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	3	3
563	Lighting	Lighting Controls	Lighting Power Density- Exterior-ER		391	14	18	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	5	5
561	Lighting	Lighting Controls	Lighting Power Density - Interior		197	7	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	2	2
513	Lighting	Lighting	LED Low Bay Lighting		1,138	41	53	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	14	14
517	Lighting	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide		2,640	95	122	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148	32	32
515	Lighting	Lighting	High Intensity Fluorescent Fixture (replacing HID)		7,457	269	344	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	90	90
509	Lighting	Lighting	LED Exit Sign		2,354	91	116	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	28	28
528	Lighting	Lighting	LED Downlight		193	7	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	2	2
501	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)		93,207	3,363	4,299	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	5,230	1,127	1,127
556	Lighting	Lighting Controls	Stairwell Bi-Level Control		182	7	9	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	2	2
562	Lighting	Lighting Controls	Long Day Lighting Dairy		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	Lighting Controls	Occupancy Sensor		9,852	383	490	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	119	119
503	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)		50,344	1,816	2,322	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	609	609
548	Lighting	Lighting	LED Specialty replacing incandescent		8,184	317	405	493	493	493	493	493	493	493	493	493	493	493	493	493	493	493	493	99	99
551	Lighting	Lighting Controls	Exterior Bi-level Controls		107	4	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1	1
524	Lighting	Lighting	LED Screw In Replacing Incandescent		5,706	221	282	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	69	69
520	Lighting	Lighting	Interior Induction Lighting-ROB		753,468	10,974	22,308	33,641	41,627	44,975	44,975	44,975	44,975	44,975	44,975	44,975	44,975	44,975	44,975	44,975	44,975	44,975	44,975	6,262	6,262
553	Lighting	Lighting Controls	Daylight Sensor Controls		1,060	41	53	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	13	13
559	Lighting	Lighting Controls	Central Lighting Control		894	35	44	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	11	11
550	Lighting	Lighting	Poultry LED Lighting		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	Lighting	Lighting	Interior Induction Lighting-ER		611,159	8,901	18,094	27,287	33,927	36,480	36,480	36,480	36,480	36,480	36,480	36,480	36,480	36,480	36,480	36,480	36,480	36,480	36,480	7,390	7,390
506	Lighting	Lighting	T5 HP replacing T12		5,805	209	268	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	70	70
537	Lighting	Lighting	LED Grow Light		1,468,599	56,826	72,646	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	88,377	17,757	17,757
505	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)		29,807	411	633	854	1,075	1,371	1,596	1,822	1,880	1,939	1,959	1,959	1,959	1,959	1,959	1,959	1,959	1,959	1,959	360	360
502	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)		59,785	871	1,770	2,668	3,319	3,569	3,569	3,569	3,569	3,569	3,569	3,569	3,569	3,569	3,569	3,569	3,569	3,569	3,569	723	723
536	Lighting	Lighting	LED Tube Lighting		51,607	712	1,095	1,479	1,862	2,374	2,764	3,154	3,256	3,357	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	624	624
560	Lighting	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)		468	7	15	23	28	30	30	30	30	30	30	30	30	30	30	30	30	30	30	6	6
558	Lighting	Lighting Controls	Occupancy Sensor & Daylight Sensor		4,337	68	138	209	260	279	279	279	279	279	279	279	279	279	279	279	279	279	279	52	52
512	Lighting	Lighting	LED High Bay Lighting		944	13	20	27	34	43	51	58	60	61	62	62	62	62	62	62	62	62	62	11	11
508	Lighting	Lighting	Garage HID replacement with LED		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	Lighting	Exterior HID replaced with LED		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	Lighting Controls	Garage Bi-level Controls		431	6	13	19	23	25	25	25	25	25	25	25	25	25	25	25	25	25	25	5	5
542	Lighting	Lighting	Interior Non-Highbay/Lowbay LED Fixtures		1,085,808	14,984	23,047	31,110	39,173	49,947	58,153	66,359	68,499	70,640	71,353	71,353	71,353	71,353	71,353	71,353	71,353	71,353	71,353	13,129	13,129
545	Lighting	Lighting	LED Specialty replacing CFL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	Lighting	Exterior Linear Fluorescent-ROB		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
549	Lighting	Lighting	Illuminated Signs to LED		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	Lighting	Light Tube		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	Lighting	LED Screw In Replacing CFL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	Lighting	42W 8 lamp Hi Bay CFL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	Lighting	Lighting	Exterior Linear Fluorescent-ER		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	Lighting	LED Troffer		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600			Refrigeration																						
614	Process cooli	Refrigeration	Floating Head Pressure Control		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process cooli	Refrigeration	H.E. Evaporative Fan Motors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process cooli	Refrigeration	Door Gaskets - Cooler and Freezer		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process cooli	Refrigeration	ECM case fan motors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process cooli	Refrigeration	Strip Curtains		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Freezers		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process cooli	Refrigeration	Automatic High Speed Doors - between freezer and cooler		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process cooli	Refrigeration	Refrigerated Case Covers		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process cooli	Refrigeration	Door Heater Controls		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process cooli	Refrigeration	Zero Energy Doors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process cooli	Refrigeration	Efficient Refrigeration Condenser		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Freezers		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process cooli	Refrigeration	Vending Miser for Soft Drink Vending Machines		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process cooli	Refrigeration	Discus and Scroll Compressors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process cooli	Refrigeration	Refrigeration Economizer		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process cooli	Refrigeration	Evaporator Fan Motor Controls on S-P motors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process cooli	Refrigeration	Reach-in Refrigerated display case door retrofit		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process cooli	Refrigeration	Refrigerant charging correction		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process cooli	Refrigeration	Refrigeration Savings due to Lighting Savings		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process cooli	Refrigeration	Evaporator Fan Motor Controls on PSC motors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process cooli	Refrigeration	Commercial Ice-makers		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process cooli	Refrigeration	Efficient low-temp compressor		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process cooli	Refrigeration	Evaporator Fan Motor Controls on ECM motors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700			Compressed Air																						
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800			Space Heating																						
363	Space Heating	Space Cooling - Chillers	Commercial EMS		770	27	35	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	7	7
368	Space Heating	Space Cooling - Chillers	Setback with Electric Heat		44	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0
302	Space Heating	Envelope	Energy Efficient Windows-ROB		163	7	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	1	1
370	Space Heating	Space Cooling - Chillers	Web Enabled EMS		297	10	13	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	3	3
364	Space Heating	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning		41	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0
306	Space Heating	Space Cooling - Chillers	Wall Insulation		67	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	1
806	Space Heating	Space Heating	VFD Pump		8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space Heating	Space Cooling - Chillers	Integrated Building Design		19	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
371	Space Heating	Space Cooling - Chillers	Retrocommissioning		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	Envelope	Energy Efficient Windows-Early Replacement		114	2	3	5	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	1	1
369	Space Heating	Space Cooling - Chillers	EMS Pump Scheduling Controls		43	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0
304	Space Heating	Envelope	Ceiling Insulation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ROB		2,053	28	43	58	73	93	108	123	127	131	132	132	132	132	132	132	132	132	132	13	13
307	Space Heating	Space Cooling - Chillers	Roof Insulation		99	2	2	3	4	5	6	7	7	7	7	7	7	7	7	7	7	7	7	1	1

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#	End Use	Measure Name	STATUS	Year by Year Units Installed																				
805	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating	616	8	13	17	22	28	32	37	38	39	40	40	40	40	40	40	40	40	40	4	4
332	Space Heating	Ventilation	Destratification Fan (HVLS)	39,326	532	818	1,104	1,390	1,772	2,063	2,354	2,430	2,506	2,532	2,532	2,532	2,532	2,532	2,532	2,532	2,532	2,532	371	371
321	Space Heating	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	Space Cooling - Chillers	Window Improvements	7	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0
362	Space Heating	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ER	1,589	21	33	45	56	72	83	95	98	101	102	102	102	102	102	102	102	102	102	14	14
365	Space Heating	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#	End Use	Measure Name	Cumulative Energy Savings (kWh) 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100		Computers & Office Equipment																			
102	Computers &	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	61,988	141,232	237,637	334,041	368,457	385,617	385,617	385,617	385,617	385,617	385,617	385,617	385,617	385,617	385,617	385,617	385,617	385,617
104	Computers &	Office Equipment	PC Network Energy Management Controls replacing no central control	24,578	55,998	94,223	132,447	146,093	152,897	152,897	152,897	152,897	152,897	152,897	152,897	152,897	152,897	152,897	152,897	152,897	152,897
107	Computers &	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	729	2,211	4,445	7,223	10,210	13,197	16,185	19,172	22,159	25,146	28,134	31,121	34,108	37,095	40,082	42,341	43,846	44,599	47,224
109	Computers &	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	199,305	454,092	764,052	1,074,013	1,184,669	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841	1,239,841
111	Computers &	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	161	408	741	1,161	1,696	2,319	3,030	3,765	4,522	5,286	6,051	6,816	7,580	8,345	9,110	9,714	10,232	10,663	11,340
101	Computers &	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150		Water Heating																			
165	Water Heating	Water Heating	Low Flow Faucet Aerator	31,839	72,542	122,059	171,575	221,092	270,609	320,126	369,642	419,159	468,676	486,353	495,167	495,167	495,167	495,167	495,167	495,167	495,167	495,167
168	Water Heating	Water Heating	Tank Insulation (electric)	2,922	6,657	11,202	15,746	20,290	24,834	29,379	33,923	38,467	43,012	47,556	52,100	56,644	61,189	65,733	67,355	68,164	68,164	71,036
171	Water Heating	Water Heating	Process Cooling Condenser Heat Recovery	3,042	6,930	11,660	16,391	21,121	25,851	30,581	35,312	40,042	44,772	49,503	54,233	58,963	63,694	68,424	70,113	70,955	70,955	73,944
151	Water Heating	Water Heating	Heat Pump Water Heater-ROB	2,960	6,744	11,348	15,951	20,555	25,158	29,762	34,365	38,969	43,572	48,176	52,779	57,383	61,987	66,590	68,233	69,053	69,053	71,962
153	Water Heating	Water Heating	Efficient Hot Water Pump-ROB	1,610	3,667	6,171	8,674	11,178	13,681	16,184	18,688	21,191	23,694	26,198	28,701	31,205	33,708	36,211	37,105	37,551	37,551	39,132
164	Water Heating	Water Heating	HVAC Condenser Heater Recovery Water Heating	1,283	2,923	4,919	6,915	8,910	10,906	12,901	14,897	16,892	18,888	20,883	22,879	24,874	26,870	28,865	29,578	29,933	29,933	31,194
176	Water Heating	Water Heating	Heat Pump Water Heater-Early Replacement	752	1,713	2,883	4,053	5,222	6,392	7,562	8,731	9,901	11,070	12,240	13,410	14,579	15,749	16,919	17,336	17,544	17,544	18,283
178	Water Heating	Water Heating	Efficient Hot Water Pump-Early Replacement	1,423	3,242	5,455	7,668	9,881	12,094	14,308	16,521	18,734	20,947	23,160	25,373	27,586	29,799	32,012	32,802	33,196	33,196	34,595
167	Water Heating	Water Heating	Hot Water (DHW) Pipe Insulation	4,043	9,211	15,498	21,786	28,073	34,361	40,648	46,936	53,223	59,510	65,798	72,085	78,373	84,660	90,947	97,235	103,522	109,810	116,097
166	Water Heating	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	Water Heating	Heat Pump Storage Water Heating-ROB	2,411	5,493	9,242	12,992	16,741	20,491	24,240	27,990	31,739	35,488	36,827	37,494	37,494	37,494	37,494	37,494	37,494	37,494	37,494
170	Water Heating	Water Heating	ECM Circulator Pump	630	1,911	3,842	6,243	8,825	11,407	13,989	16,571	19,153	21,735	24,317	26,899	29,481	32,063	34,645	36,597	37,898	38,549	40,818
152	Water Heating	Water Heating	Electric Tankless Water Heater-ROB	33	84	154	241	352	481	628	780	937	1,096	1,254	1,413	1,571	1,730	1,889	2,047	2,206	2,364	2,523
169	Water Heating	Water Heating	Drain Water Heat Recovery Water Heater	5	13	24	38	55	76	99	123	148	173	198	223	248	273	298	323	348	373	398
179	Water Heating	Water Heating	Heat Pump Storage Water Heating-Early Replacement	164	498	1,001	1,627	2,299	2,972	3,645	4,317	4,990	5,663	6,171	6,511	6,680	6,727	6,727	6,727	6,727	6,727	6,727
177	Water Heating	Water Heating	Electric Tankless Water Heater-Early Replacement	33	85	154	242	353	483	631	784	942	1,101	1,260	1,419	1,578	1,738	1,897	2,056	2,215	2,375	2,534
300		Building Envelope																			
302	Building Envel	Envelope	Energy Efficient Windows-ROB																			
306	Building Envel	Space Cooling - Chillers	Wall Insulation																			
301	Building Envel	Space Cooling - Chillers	Integrated Building Design																			
309	Building Envel	Envelope	Energy Efficient Windows-Early Replacement																			
304	Building Envel	Envelope	Ceiling Insulation																			
307	Building Envel	Space Cooling - Chillers	Roof Insulation																			
305	Building Envel	Space Cooling - Chillers	Window Improvements																			
303	Building Envel	Envelope	Cool Roofing-ROB																			
308	Building Envel	Envelope	Improved Duct Sealing																			
310	Building Envel	Envelope	Cool Roofing-ER																			
320		Ventilation																			
322	Ventilation	Ventilation	Variable Speed Drive Control, 15 HP	146,436	333,637	561,376	789,114	1,016,853	1,244,592	1,472,330	1,700,069	1,927,808	2,155,546	2,383,285	2,611,024	2,838,762	3,066,501	3,294,239	3,375,542	3,416,080	3,416,080	3,559,988
323	Ventilation	Ventilation	Variable Speed Drive Control, 5 HP	146,436	333,637	561,376	789,114	1,016,853	1,244,592	1,472,330	1,700,069	1,927,808	2,155,546	2,383,285	2,611,024	2,838,762	3,066,501	3,294,239	3,375,542	3,416,080	3,416,080	3,559,988
324	Ventilation	Ventilation	Variable Speed Drive Control, 40 HP	146,436	333,637	561,376	789,114	1,016,853	1,244,592	1,472,330	1,700,069	1,927,808	2,155,546	2,383,285	2,611,024	2,838,762	3,066,501	3,294,239	3,375,542	3,416,080	3,416,080	3,559,988
333	Ventilation	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	Ventilation	Destratification Fan (HVLS)	14,213	36,073	65,582	102,738	150,114	205,273	268,215	333,188	400,191	467,871	535,550	603,230	670,910	738,590	806,270	859,737	905,556	943,727	1,003,644
321	Ventilation	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340		Space Cooling - Chillers																			
363	Space coolers	Space Cooling - Chillers	Commercial EMS	12,209	27,818	46,806	65,794	84,783	103,771	122,759	141,747	160,736	179,724	198,712	217,700	236,689	255,677	274,665	281,444	284,824	284,824	298,823
368	Space coolers	Space Cooling - Chillers	Setback with Electric Heat	8,957	20,408	34,339	48,269	62,200	76,130	90,061	103,991	117,922	122,895	125,374	125,374	125,374	125,374	125,374	125,374	125,374	125,374	125,374
302	Space coolers	Envelope	Energy Efficient Windows-ROB	9,637	21,957	36,945	51,933	66,920	81,908	96,896	111,884	126,871	141,859	156,847	171,835	186,822	201,810	216,798	231,786	246,773	261,761	276,749
370	Space coolers	Space Cooling - Chillers	Web Enabled EMS	11,708	26,675	44,884	63,092	81,301	99,509	117,718	135,926	154,135	172,343	190,552	208,760	226,969	245,177	263,386	269,886	273,127	273,127	284,633
364	Space coolers	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	864	1,969	3,313	4,658	6,002	7,346	8,690	10,034	11,379	12,723	14,067	15,411	16,755	18,099	19,444	20,788	22,132	23,476	24,820
350	Space coolers	Space Cooling - Chillers	Chiller Tune Up	931	2,122	3,570	5,018	6,467	6,984	7,241	7,241	7,241	7,241	7,241	7,241	7,241	7,241	7,241	7,241	7,241	7,241	7,241
351	Space coolers	Space Cooling - Chillers	Efficient Chilled Water Pump	739	1,684	2,833	3,983	5,132	6,282	7,431	8,580	9,730	10,879	12,029	13,178	14,327	15,477	16,626	17,037	17,241	17,241	17,998
306	Space coolers	Space Cooling - Chillers	Wall Insulation	1,658	3,779	6,358	8,937	11,516	14,096	16,675	19,254	21,834	24,413	26,992	29,571	32,151	34,730	37,309	39,888	42,468	45,047	47,626
347	Space coolers	Space Cooling - Chillers	Chiled Hot Water Reset	4,466	10,175	17,120	24,066	31,011	37,957	44,902	51,847	54,327	55,563	55,563	55,563	55,563	55,563	55,563	55,563	55,563	55,563	55,563
343	Space coolers	Space Cooling - Chillers	Water Side Economizer	962	2,193	3,689	5,186	6,683	8,179	9,676	11,173	12,669	14,166	15,662	17,159	18,656	20,152	21,649	22,183	22,450	22,450	23,396
345	Space coolers	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	2,282	5,199	8,748	12,297	15,846	19,395	22,943	26,492	30,041	33,590	37,139	40,688	44,237	47,786	51,334	54,883	58,432	61,981	65,530
348	Space coolers	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	2,147	4,892	8,231	11,570	14,909	18,248	21,587	24,927	28,266	31,605	34,944	38,283	41,622	44,961	48,301	51,640	54,979	58,318	61,657
344	Space coolers	Space Cooling - Chillers	VAV System Conversion	244	557	937	1,317	1,697	2,077	2,457	2,837	3,217	3,597	3,977	4,357	4,737	5,117	5,497	5,877	6,257	6,637	7,017
301	Space coolers	Space Cooling - Chillers	Integrated Building Design	18,636	56,520	113,650	184,682	261,060	337,438	413,816	490,193	566,571	642,949	719,327	795,705	872,083	948,461	1,024,839	1,101,217	1,177,595	1,253,973	1,330,351
346	Space coolers	Space Cooling - Chillers	Motor Belt Replacement	194	441	743	1,044	1,345	1,646	1,948	2,249	2,550	2,852	3,153	3,454	3,755	4,057	4,164	4,218	4,218	4,218	4,288
371	Space coolers	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	11,380	25,927	43,625	61,322	79,020	96,718	114,415	132,113	149,810	167,508	185,206	202,903	220,601	238,299	255,996	273,694	291,391	309,089	326,787
342	Space coolers	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	11,551	26,317	44,281	62,244	80,208	98,172	116,135	134,099	152,063	170,026	187,990	205,954	223,918	241,881	259,845	277,809	295,772	313,736	331,700
309	Space coolers	Envelope	Energy Efficient Windows-Early Replacement	2,005	6,081	12,228	19,870	28,088	36,305	44,523	52,740	60,958	69,175	77,393	85,610	93,828	102,045	110,263	118,481	126,698	134,916	143,133
369	Space coolers	Space Cooling - Chillers	EMS Pump Scheduling Controls	647	1,473	2,479	3,485	4,490	5,496	6,502	7,507	8,513	9,519	10,524	11,530	12,536	13,541	14,547	14,906	15,085	15,085	15,720
304	Space coolers	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	Space Cooling - Chillers	High Efficiency Pumps-ROB	56	170	341	555	784	1,014	1,243	1,472	1,702	1,931	2,161	2,390	2,619	2,849	3,078	3,252	3,367	3,425	3,627
354	Space coolers	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	997	2,531	4,602	7,209	10,533	14,403	18,820	23,379	28,080	32,829	37,578	42,327	47,076	51,825	56,574	61,323	66,071	70,820	75,569
307	Space coolers	Space Cooling - Chillers	Roof Insulation	51	130	235	369	539	737	963	1,196	1,437	1,680	1,923	2,166	2,409	2,652	2,895	3,138	3,381	3,624	3,867
356	Space coolers	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	173	440	805	1,253	1,831	2,504	3,272	4,065	4,882	5,708	6,533	7,359	8,185	9,010	9,836	10,662	11,487	12,313	13,138
357	Space coolers	Space Cooling - Chillers	High Efficiency Pumps-ER	39	98	178	278	407	556	727	903	1,084	1,268	1,451	1,634	1,818	2,001	2,184	2,329	2,453	2,567	2,719
353	Space coolers	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	907	2,301	4,183	6,553	9,574	13,093	17,107	21,251	25,525	29,841	34,158	38,475	42,792	47,108	51,425	55,742	60,058	64,375	68,692
355	Space coolers	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	190	481	875	1,370	2,002	2,738	3,577	4,444	5,337	6,240	7,143	8,045	8,948	9,850	10,753	11,656	12,558	13,461	14,364
321	Space coolers	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	Space Cooling - Chillers	Window Improvements	12	30	54	84	123	168	219	272	327	383	438	493	549	604	659	703	741	772	821
362	Space coolers	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360		HVAC Controls																			
369	Space coolers	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380		Space Cooling - Unitary and Split AC																			
363	Space cooling	Space Cooling - Chillers	Commercial EMS	115,311	262,724	442,057	621,391	800,724	980,058	1,159,392	1,338,725	1,518,059	1,697,392	1,876,726	2,056,059	2,235,393	2,414,727	2,594,060	2,658,082	2,690,094	2,690,094	2,803,324
368	Space cooling	Space Cooling - Chillers	Setback with Electric Heat	84,597	192,744	324,309	455,875	587,441	719,007	850,572	982,138	1,113,704	1,160,673	1,184,091	1,184,091	1,184,091	1,184,091	1,184,091	1,184,091	1,184,091	1,184,091	1,184,091
302	Space cooling	Envelope	Energy Efficient Windows-ROB	91,017	207,372	348,923	490,474	632,026	773,577	915,128	1,056,679	1,198,230	1,339,781	1,481,332	1,622,883	1,764,434	1,905,985	2,047,536	2,189,087	2,330,638	2,472,190	2,613,741
370	Space cooling	Space Cooling - Chillers	Web Enabled EMS	110,576	251,935	423,904	595,873	767,842	939,811	1,111,780	1,283,749	1,455,718	1,627,687	1,799,656	1,971,625	2,143,594	2,315,563	2,487,532	2,548,925	2,579,536	2,579,536	2,688,203
364	Space cooling	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	8,163	18,598	31,293	43,988	56,684	69,379	82,074	94,769	107,464	120,159	132,854	145,549	158,244	170,939	183,634	196,329	209,025	221,720	234,415
306	Space cooling	Space Cooling - Chillers	Wall Insulation	15,744	35,870	60,355	84,840	109,325	133,810	158,295	182,780	207,265	231,750	256,235	280,719	305,204	329,689	354,174	378,659	403,144	427,629	452,114
301	Space cooling	Space Cooling - Chillers	Integrated Building Design	185,610	562,917	1,131,919	1,839,369	2,600,067	3,360,766	4,121,464	4,882,162	5,642,861	6,403,559	7,164,258	7,924,956	8,685,655	9,446,353	########	########	########	########	########
371	Space cooling	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space cooling	Envelope	Energy Efficient Windows-Early Replacement	25,900	78,549	157,948	256,665	362,813	468,961	575,108	681,256	787,404	893,552	999,699	1,105,847	1,211,995	1,318,142	1,424,290	1,530,438	1,636,586	1,742,733	1,848,881
391	Space cooling	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	9,151	20,850	35,082	40,163	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696	42,696
369	Space cooling	Space Cooling - Chillers	EMS Pump Scheduling Controls	9,942	22,651	38,112	53,573	69,034	84,495	99,957	115,418	130,879	146,340	161,801	177,262	192,724	208,185	223,646	229,166	231,918	231,918	241,688
387	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	1,879	5,699	11,460	18,622	26,324	34,025	41,727	49,428	57,129	64,831	72,532	80,234	87,935	95,637	103,338	109,160	113,042	114,983	121,751
304	Space cooling	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#	End Use		Measure Name	Cumulative Energy Savings (kWh)																			
392	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ROB	3,239	9,823	19,753	32,098	45,373	58,647	71,922	85,196	98,471	111,746	125,020	138,295	151,570	164,844	178,119	188,154	194,845	198,190	209,856	
307	Space cooling	Space Cooling - Chillers	Roof Insulation	537	1,362	2,477	3,880	5,669	7,753	10,130	12,584	15,114	17,671	20,227	22,783	25,339	27,895	30,451	33,007	35,563	38,120	40,676	
398	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ER	2,473	6,276	11,410	17,874	26,116	35,712	46,663	57,967	69,623	81,398	93,173	104,947	116,722	128,497	140,271	149,573	157,545	164,196	174,610	
321	Space cooling	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
305	Space cooling	Space Cooling - Chillers	Window Improvements	196	497	904	1,417	2,070	2,830	3,698	4,594	5,518	6,451	7,384	8,318	9,251	10,184	11,117	11,855	12,486	13,013	13,839	
362	Space cooling	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
382	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	4,381	11,118	20,213	31,666	46,268	63,269	82,669	102,694	123,346	144,206	165,066	185,926	206,787	227,647	248,507	264,986	276,109	290,874	309,341	
384	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
390	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
394	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
366	Space cooling	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
303	Space cooling	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
367	Space cooling	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
308	Space cooling	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
385	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	9,039	22,943	41,711	65,343	95,474	130,556	170,588	211,911	254,526	297,571	340,616	383,661	426,706	469,751	512,797	546,802	575,944	600,221	638,329	
393	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
395	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
397	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
396	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
310	Space cooling	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
400			Cooking																				
555	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ROB	3,612	8,231	13,849	19,467	25,085	30,703	36,321	41,939	47,557	53,175	58,793	64,411	66,417	67,417	67,417	67,417	67,417	67,417	67,417	
564	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ER	5,642	12,854	21,628	30,402	39,176	47,950	56,724	65,498	74,272	83,046	91,820	100,594	103,726	105,288	105,288	105,288	105,288	105,288	105,288	
554	Lighting	Lighting Controls	Lighting Power Density- Exterior-ROB	38,580	87,854	147,822	207,790	267,759	327,727	387,696	447,664	507,632	567,601	627,569	687,537	708,946	719,620	719,620	719,620	719,620	719,620	719,620	
563	Lighting	Lighting Controls	Lighting Power Density- Exterior-ER	59,657	135,921	228,700	321,478	414,257	507,036	599,815	692,593	785,372	878,151	970,930	1,063,708	1,096,830	1,113,345	1,113,345	1,113,345	1,113,345	1,113,345	1,113,345	
561	Lighting	Lighting Controls	Lighting Power Density - Interior	18,550	42,264	71,113	99,962	128,811	157,660	186,508	215,357	244,206	273,055	301,904	330,753	359,602	388,451	417,300	427,599	432,734	432,734	450,964	
513	Lighting	Lighting	LED Low Bay Lighting	109,616	249,747	420,223	590,700	761,176	931,652	1,102,128	1,272,604	1,443,080	1,613,556	1,784,032	1,954,508	2,124,984	2,295,460	2,465,936	2,636,412	2,806,888	2,977,364	3,147,840	
517	Lighting	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	64,388	146,700	246,837	346,973	447,110	547,247	647,383	747,520	847,656	947,793	1,047,930	1,148,066	1,248,203	1,348,339	1,448,476	1,548,613	1,584,361	1,602,186	1,699,469	
515	Lighting	Lighting	High Intensity Fluorescent Fixture (replacing HID)	370,472	844,078	1,420,240	1,996,403	2,572,565	3,148,728	3,724,890	4,301,053	4,877,215	5,453,377	6,029,540	6,605,702	6,811,392	6,913,949	6,913,949	6,913,949	6,913,949	6,913,949	6,913,949	
509	Lighting	Lighting	LED Exit Sign	20,498	46,702	78,580	110,459	142,337	174,216	206,094	237,972	269,851	301,729	333,608	365,486	397,364	429,243	461,121	493,000	504,380	510,055	541,024	
528	Lighting	Lighting	LED Downlight	1,661	3,785	6,368	8,951	11,534	14,118	16,701	19,284	21,868	24,451	27,034	29,617	32,201	34,784	37,367	38,290	38,749	38,749	40,382	
501	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	182,271	415,284	698,754	982,223	1,265,693	1,549,163	1,832,633	2,116,103	2,399,573	2,683,043	2,966,513	3,067,712	3,118,170	3,118,170	3,118,170	3,118,170	3,118,170	3,118,170	3,118,170	
556	Lighting	Lighting Controls	Stairwell Bi-Level Control	34,015	77,499	130,399	183,299	236,199	289,100	342,000	394,900	447,800	466,686	476,102	476,102	476,102	476,102	476,102	476,102	476,102	476,102	476,102	
562	Lighting	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
557	Lighting	Lighting Controls	Occupancy Sensor	184,412	420,161	706,960	993,759	1,280,558	1,567,357	1,854,156	2,140,955	2,427,754	2,714,553	2,816,940	2,867,990	2,867,990	2,867,990	2,867,990	2,867,990	2,867,990	2,867,990	2,867,990	
503	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	133,325	303,766	511,114	718,463	925,812	1,133,160	1,340,509	1,547,858	1,755,206	1,962,555	2,169,904	2,377,252	2,584,601	2,791,950	2,999,298	3,073,322	3,110,230	3,110,230	3,241,254	
548	Lighting	Lighting	LED Specialty replacing incandescent	64,919	147,910	248,873	349,836	450,798	486,842	504,813	504,813	504,813	504,813	504,813	504,813	504,813	504,813	504,813	504,813	504,813	504,813	504,813	
551	Lighting	Lighting Controls	Exterior Bi-level Controls	51,562	117,477	197,666	277,856	358,045	438,234	518,423	598,613	678,802	758,991	839,180	919,369	947,997	962,271	962,271	962,271	962,271	962,271	962,271	
524	Lighting	Lighting	LED Screw In Replacing Incandescent	29,143	66,399	111,723	157,047	202,370	247,694	293,018	338,341	383,665	399,846	407,913	407,913	407,913	407,913	407,913	407,913	407,913	407,913	407,913	
530	Lighting	Lighting	Interior Induction Lighting-ROB	43,896	133,126	267,691	434,998	614,898	794,797	974,697	1,154,597	1,334,497	1,514,397	1,694,296	1,874,196	2,054,096	2,233,996	2,413,896	2,593,795	2,729,800	2,820,469	3,005,046	
553	Lighting	Lighting Controls	Daylight Sensor Controls	429,409	978,357	1,646,178	2,313,999	2,981,820	3,649,641	4,317,461	4,985,282	5,653,103	6,320,924	6,988,745	7,656,566	7,894,978	8,013,850	8,013,850	8,013,850	8,013,850	8,013,850	8,013,850	
559	Lighting	Lighting Controls	Central Lighting Control	290,068	660,887	1,112,004	1,563,121	2,014,238	2,465,355	2,916,472	3,367,589	3,818,706	4,269,823	4,720,941	5,172,058	5,333,107	5,413,405	5,413,405	5,413,405	5,413,405	5,413,405	5,413,405	
550	Lighting	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
550	Lighting	Lighting	Interior Induction Lighting-ER	35,605	107,982	217,132	352,839	498,761	644,682	790,604	936,526	1,082,447	1,228,369	1,374,291	1,520,213	1,666,134	1,812,056	1,957,978	2,103,900	2,214,216	2,287,761	2,437,477	
506	Lighting	Lighting	T5 HP replacing T12	234,173	533,537	897,725	1,261,914	1,626,103	1,990,292	2,354,480	2,718,669	3,082,858	3,447,047	3,811,235	3,941,251	4,006,076	4,006,076	4,006,076	4,006,076	4,006,076	4,006,076	4,006,076	
537	Lighting	Lighting	LED Grow Light	250,035	569,676	958,533	1,347,390	1,736,247	2,125,104	2,513,961	2,902,819	3,291,676	3,680,533	4,069,390	4,208,212	4,277,429	4,277,429	4,277,429	4,277,429	4,277,429	4,277,429	4,277,429	
505	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	17,276	43,849	79,718	124,884	182,472	249,521	326,031	405,009	486,455	568,724	650,993	733,261	815,530	897,799	980,068	1,045,060	1,100,756	1,147,156	1,219,988	
502	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	21,507	65,226	131,158	213,132	301,276	389,420	477,564	565,707	653,851	741,995	830,139	896,776	941,200	963,413	969,583	969,583	969,583	969,583	972,051	
536	Lighting	Lighting	LED Tube Lighting	29,912	75,918	138,020	216,218	315,923	432,008	564,474	701,212	842,224	984,660	1,127,096	1,269,532	1,411,968	1,554,403	1,696,839	1,839,275	1,981,711	2,094,236	2,242,654	
560	Lighting	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	44,098	133,740	268,925	437,003	617,732	798,461	979,190	1,159,919	1,340,648	1,521,377	1,702,106	1,882,835	2,019,466	2,110,554	2,156,098	2,168,749	2,168,749	2,168,749	2,193,292	
558	Lighting	Lighting Controls	Occupancy Sensor & Daylight Sensor	43,530	132,019	265,464	431,380	609,783	788,187	966,590	1,144,994	1,323,397	1,501,801	1,636,674	1,726,589	1,771,547	1,784,035	1,784,035	1,784,035	1,784,035	1,784,035	1,784,035	
512	Lighting	Lighting	LED High Bay Lighting	54,179	137,513	249,999	391,640	572,238	782,506	1,022,443	1,270,120	1,525,538	1,783,535	2,041,532	2,299,529	2,557,527	2,815,524	3,073,521	3,331,518	3,535,336	3,710,000	3,968,410	
508	Lighting	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
507	Lighting	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
552	Lighting	Lighting Controls	Garage Bi-level Controls	5,702	17,293	34,773	56,507	79,876	103,245	126,615	149,984	173,353	196,722	214,399	226,168	232,057	233,693	233,693	233,693	233,693	233,693	233,693	
542	Lighting	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	40,008	101,544	184,607	289,199	422,558	577,827	755,004	937,897	1,126,505	1,317,018	1,507,531	1,698,045	1,888,558	2,079,071	2,269,584	2,460,098	2,650,611	2,841,124	3,031,637	
545	Lighting	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
544	Lighting	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
546	Lighting	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
514	Lighting	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
525	Lighting	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
516	Lighting	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
559	Lighting	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
529	Lighting	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
600			Refrigeration																				
614	Process cooli	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
610	Process cooli	Refrigeration	H.E. Evaporative Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
625	Process cooli	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
628	Process cooli	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
623	Process cooli	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
622	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
630	Process cooli	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
602	Process cooli	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
612	Process cooli	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
611	Process cooli	Refrigeration	Zero Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
624	Process cooli	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
620	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
601	Process cooli	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
613	Process cooli	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
603	Process cooli	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
607	Process cooli	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
626	Process cooli	Refrigeration	Reach-in Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
621	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
631	Process cooli	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
627	Process cooli	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
619	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
608	Process cooli	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
606	Process cooli	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
629	Process cooli	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
609	Process cooli	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
700			Compressed Air																				
800			Space Heating																				
363	Space Heating	Space Cooling - Chillers	Commercial EMS	27,132	61,817	104,013	146,210	188,406	230,602	272,798	314,994	357,190	399,386	441,583	483,779	525,975	568,171	610,367	625,431	632,942	632,942	659,606	
368	Space Heating	Space Cooling - Chillers	Setback with Electric Heat	19,905	45,351	76,308	107,265	138,221	169,178	200,135	231,091	262,048	273,099	278,610	278,610	278,610	278,610	278,610	278,610	278,610	278,610	278,610	
302	Space Heating	Envelope	Energy Efficient Windows-ROB	21,416	48,793	82,100	115,406	148,712	182,019	215,324	248,630	281,936	315,243	348,549	381,855	415,161	448,467	481,773	515,079	548,386	581,692	614,998	
370	Space Heating	Space Cooling - Chillers	Web Enabled EMS	26,018	59,279	99,742	140,205	180,667	221,132	261,595	302,058	342,522	382,985	423,448	463,912	504,375	544,838	585,302	599,747	606,950	606,950	632,518	
364	Space Heating	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	1,921	4,376	7,363	10,350	13,337	16,324	19,311	22,299	25,286	28,273	31,260	34,247	37,234	40,221	43,208	46,195	49,182	52,169	55,156	
306	Space Heating	Space Cooling - Chillers	Wall Insulation	3,704	8,440	14,201	19,962	25,724	31,485	37,246	43,007	48,768	54,529	60,290	66,052	71,813	77,574	83,335	89,096	94,857	100,619	106,380	
806	Space Heating	Space Heating	VFD Pump	6,003	13,678	23,014	32,351	41,687	51,024	60,360	69,697	79,033	88,370	97,706	107,042	116,379	125,715	135,052	138,385	140,047	140,047	145,947	
301	Space Heating	Space Cooling - Chillers	Integrated Building Design	43,116	130,761	262,936	427,271	603,975	780,679	957,383	1,134,088	1,310,792	1,487,496	1,664,200	1,840,904	2,017,609	2,194,313	2,371,017	2,547,721	2,724,425	2,901,130	3,077,834	
371	Space Heating	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
309	Space Heating	Envelope	Energy Efficient Windows-Early Replacement	5,203	15,781	31,732	51,564	72,890	94,215	115,540	136,865	158,190	179,516	200,841	222,166	243,491	264,816	286,142	307,467	328,792	350,117	371,442	
369	Space Heating	Space Cooling - Chillers	EMS Pump Scheduling Controls	2,328	5,305	8,926	12,547	16,168	19,789	23,410	27,031	30,652	34,273	37,894	41,515	45,136	48,758	52,379	53,671	54,316	54,316	56,604	
304	Space Heating	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
803	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ROB	7,577	19,230	34,961	54,768	80,023	109,427	142,981	177,617	213,335	249,414	285,493	321,572	357,651	393,730	429,809	458,311	482,736	503,085	535,026	
307	Space Heating	Space Cooling - Chillers	Roof Insulation	126	321	583	913	1,334	1,824	2,383	2,961	3,556	4,157	4,759	5,360	5,962	6,563	7,164	7,766	8,367	8,969	9,570	

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#	End Use		Measure Name	Cumulative Energy Savings (kWh)																		
805	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating	233	592	1,075	1,685	2,462	3,366	4,398	5,464	6,562	7,672	8,782	9,892	11,001	12,111	13,221	14,098	14,849	15,475	16,458
332	Space Heating	Ventilation	Destratification Fan (HVLS)	8,825	22,398	40,721	63,791	93,208	127,457	166,539	206,881	248,484	290,508	332,531	374,554	416,578	458,601	500,625	533,823	562,273	585,974	623,177
321	Space Heating	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	Space Cooling - Chillers	Window Improvements	34	85	155	242	354	484	632	798	944	1,103	1,263	1,422	1,582	1,742	1,901	2,027	2,135	2,225	2,367
362	Space Heating	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ER	2,814	7,142	12,984	20,340	29,719	40,639	53,101	65,964	79,229	92,628	106,027	119,426	132,825	146,224	159,624	170,209	179,280	186,837	198,699
365	Space Heating	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900			Other																			
913	Other	Other	Engine Block Heater Timer	2,608	5,941	9,997	14,052	18,107	19,555	20,277	20,277	20,277	20,277	20,277	20,277	20,277	20,277	20,277	20,277	20,277	20,277	20,277
911	Other	Other	Parking Garage Exhaust Fan CO Control	1,229	3,727	7,495	12,179	17,216	22,253	27,289	32,326	37,363	42,400	47,437	52,473	57,510	62,547	67,584	71,392	73,930	75,199	79,626
903	Other	Other	NEMA Premium Transformer, three-phase-ROB	93	236	428	671	980	1,341	1,752	2,176	2,614	3,056	3,498	3,940	4,382	4,824	5,266	5,708	6,150	6,592	7,034
909	Other	Other	High Efficiency Transformer, three-phase-ROB	98	248	452	707	1,034	1,413	1,847	2,294	2,755	3,221	3,687	4,153	4,619	5,085	5,551	6,017	6,483	6,949	7,415
901	Other	Other	High Efficiency Transformer, single-phase-ROB	99	250	455	713	1,041	1,424	1,861	2,311	2,776	3,246	3,715	4,185	4,654	5,124	5,593	6,063	6,532	7,001	7,471
902	Other	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000			Machine Drive																			
1022	Machine Drive	Machine Drive	Air-Entraining Air Nozzles	163,749	373,082	627,746	882,409	1,137,073	1,391,737	1,646,400	1,901,064	2,155,728	2,410,391	2,665,055	2,919,718	3,174,382	3,429,046	3,683,709	3,774,624	3,819,954	3,819,954	3,980,876
1006	Machine Drive	Machine Drive	Advanced Lubricants	1,962,324	2,508,601	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826	3,051,826
1010	Machine Drive	Machine Drive	Compressed Air System Management	2,972,050	3,799,418	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162	4,622,162
1018	Machine Drive	Machine Drive	Storage Tank Addition (comp air)	83,862	191,069	321,492	451,914	582,337	712,759	843,182	973,605	1,104,027	1,234,450	1,364,872	1,495,295	1,625,718	1,756,140	1,886,563	2,016,985	2,147,408	2,277,831	2,408,253
1023	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	108,314	246,781	415,232	583,683	752,133	920,584	1,089,035	1,257,486	1,425,937	1,594,388	1,762,839	1,931,290	2,099,741	2,268,192	2,436,643	2,496,780	2,526,764	2,526,764	2,633,208
1020	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	717,785	1,635,389	2,751,696	3,868,002	4,984,309	6,100,615	7,216,922	8,333,229	9,449,535	########	########	########	########	########	########	########	########	########	########
1019	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - ROB	88,322	201,231	338,590	475,949	613,308	750,667	888,027	1,025,386	1,162,745	1,300,104	1,437,463	1,574,822	1,712,181	1,849,540	1,986,899	2,035,937	2,060,387	2,060,387	2,147,184
1030	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	839,781	1,913,342	3,219,378	4,525,413	5,831,449	7,137,484	8,443,520	9,749,555	########	########	########	########	########	########	########	########	########	########	########
1016	Machine Drive	Machine Drive	Elec motors replacing pneumatic (comp air)	290,824	662,609	1,114,902	1,567,195	2,019,488	2,471,781	2,924,074	3,376,367	3,828,660	4,280,953	4,733,246	5,185,539	5,637,832	6,090,125	6,542,418	6,703,886	6,784,394	6,784,394	7,070,198
1008	Machine Drive	Machine Drive	Pump System Efficiency Improvements	681,321	1,552,310	2,611,906	3,671,503	4,731,100	5,790,697	6,850,294	7,909,891	8,969,488	########	########	########	########	########	########	########	########	########	########
1015	Machine Drive	Machine Drive	Compressed Air Audits and Leak Repair	4,948,726	6,326,365	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308	7,696,308
1025	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	108,103	246,299	414,422	582,544	750,667	918,789	1,086,912	1,255,034	1,423,156	1,591,279	1,759,401	1,927,524	2,095,646	2,263,769	2,431,891	2,491,911	2,521,836	2,521,836	2,628,073
1007	Machine Drive	Machine Drive	Motor System Optimization (including ASD)	2,153,359	4,906,175	8,255,100	########	########	########	########	########	########	########	########	########	########	########	########	########	########	########	########
1003	Machine Drive	Machine Drive	Electric Supply System Improvements	485,684	1,113,410	1,873,416	2,633,422	3,393,428	4,153,434	4,913,442	5,673,448	6,433,455	7,193,462	7,953,468	8,713,475	9,473,481	########	########	########	########	########	########
1014	Machine Drive	Machine Drive	High Efficiency Pumps - ROB	248,921	567,137	954,262	1,341,386	1,728,511	2,115,635	2,502,759	2,889,884	3,277,008	3,664,133	4,051,257	4,438,381	4,825,506	5,212,630	5,599,755	5,737,958	5,806,866	5,806,866	6,051,490
1028	Machine Drive	Machine Drive	Synchronous belt drives	1,488,770	3,391,988	5,707,339	6,533,919	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051	6,946,051
1024	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	92,018	209,651	352,758	495,865	638,971	782,078	925,185	1,068,291	1,211,398	1,354,505	1,497,611	1,640,718	1,783,825	1,926,931	2,070,038	2,121,127	2,146,600	2,146,600	2,237,029
1001	Machine Drive	Machine Drive	Sensors & Controls	183,304	417,638	702,715	987,792	1,272,869	1,557,946	1,843,023	2,128,100	2,413,177	2,698,254	2,983,331	3,268,408	3,553,485	3,838,561	4,123,638	4,225,411	4,276,155	4,276,155	4,456,295
1013	Machine Drive	Machine Drive	VFD for Process Pumps	1,095,240	2,495,376	4,198,705	5,902,033	7,605,362	9,308,690	########	########	########	########	########	########	########	########	########	########	########	########	########
1012	Machine Drive	Machine Drive	VFD for Process Fans	308,851	703,680	1,184,008	1,664,335	2,144,663	2,624,990	3,105,318	3,585,646	4,065,973	4,546,301	5,026,629	5,506,956	5,987,284	6,467,612	6,947,939	7,119,416	7,204,914	7,204,914	7,508,433
1005	Machine Drive	Machine Drive	Industrial Motor Management	246,042	560,579	943,227	1,325,874	1,708,522	1,845,127	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238	1,913,238
1027	Machine Drive	Machine Drive	Receiver Capacity Addition	103,905	236,734	398,328	559,921	721,515	883,108	1,044,701	1,206,295	1,367,888	1,529,482	1,587,170	1,615,934	1,615,934	1,615,934	1,615,934	1,615,934	1,615,934	1,615,934	1,615,934
1009	Machine Drive	Machine Drive	Fan System Improvements	54,211	123,513	207,822	292,131	376,439	460,748	545,057	629,366	713,675	797,984	882,293	966,602	1,050,911	1,135,220	1,219,529	1,249,627	1,264,634	1,264,634	1,317,909
1021	Machine Drive	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	30,255	91,756	184,504	299,818	423,813	547,807	671,801	795,796	919,790	1,043,784	1,167,779	1,291,773	1,415,767	1,539,762	1,663,756	1,757,496	1,819,989	1,851,235	1,960,202
1026	Machine Drive	Machine Drive	High Efficiency Pumps - Early Replacement	63,387	192,239	386,556	628,154	887,936	1,147,719	1,407,501	1,667,284	1,927,066	2,186,848	2,446,631	2,706,413	2,966,196	3,225,978	3,485,761	3,682,156	3,813,086	3,878,552	4,106,848
1017	Machine Drive	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	55,699	126,904	213,528	300,152	386,776	417,700	433,119	433,119	433,119	433,119	433,119	433,119	433,119	433,119	433,119	433,119	433,119	433,119	433,119
1031	Machine Drive	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	50,500	128,174	233,021	365,042	533,376	729,364	953,006	1,183,863	1,421,934	1,662,410	1,902,886	2,143,362	2,383,838	2,624,314	2,864,790	3,054,766	3,217,568	3,353,196	3,566,090
1011	Machine Drive	Machine Drive	Compressed Air - Advanced Compressor Controls	68,844	156,854	263,922	370,989	478,057	585,124	692,192	799,259	906,327	1,013,394	1,120,462	1,227,530	1,334,597	1,441,665	1,548,732	1,586,955	1,606,013	1,606,013	1,673,669
1002	Machine Drive	Machine Drive	Energy Information System	51,525	117,393	197,524	277,656	357,787	437,918	518,050	598,182	678,313	758,445	838,576	918,708	998,839	1,078,971	1,159,102	1,187,709	1,201,972	1,201,972	1,252,167
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1040			Process Cooling & Refrigeration																			
1048	Process Cool	Process Cooling & Refrig.	Evaporator Motor Reduction - ROB	56,475	128,673	216,504	304,335	392,166	479,997	567,828	655,659	743,491	831,322	919,153	1,006,984	1,094,815	1,182,646	1,270,477	1,301,833	1,317,467	1,317,467	1,372,967
1049	Process Cool	Process Cooling & Refrig.	Evaporator Motor Reduction - Early Replacement	67,837	154,559	260,059	365,560	471,061	576,562	682,062	787,563	893,064	998,565	1,104,065	1,209,566	1,315,067	1,420,568	1,526,068	1,563,732	1,582,511	1,582,511	1,649,177
1046	Process Cool	Process Cooling & Refrig.	Floating Head Pressure Control	99,924	227,665	383,067	538,470	693,873	849,275	1,004,678	1,160,081	1,315,483	1,470,886	1,626,288	1,781,691	1,937,094	2,092,496	2,247,899	2,303,378	2,331,039	2,331,039	2,429,238
1043	Process Cool	Process Cooling & Refrig.	Electric Supply System Improvements	97,226	221,518	372,725	523,931	675,138	826,345	977,552	1,128,758	1,279,965	1,431,172	1,582,379	1,733,585	1,884,792	2,035,999	2,187,206	2,241,186	2,268,101	2,268,101	2,363,649
1041	Process Cool	Process Cooling & Refrig.	Sensors & Controls	81,131	184,847	311,023	437,198	563,374	689,549	815,725	941,900	1,068,076	1,194,251	1,320,426	1,446,602	1,572,777	1,698,953	1,825,128	1,870,173	1,892,633	1,892,633	1,972,363
1044	Process Cool	Process Cooling & Refrig.	Improved Refrigeration	308,034	701,820	1,180,878	1,659,936	2,138,994	2,618,052	3,097,110	3,576,169	4,055,227	4,534,285	5,013,343	5,492,401	5,971,459	6,450,517	6,929,575	7,100,599	7,185,871	7,185,871	7,488,588
1047	Process Cool	Process Cooling & Refrig.	Refrigerant charging correction	420,467	957,984	1,191,432	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829	1,307,829
1042	Process Cool	Process Cooling & Refrig.	Energy Information System	22,939	52,263	87,938	123,613	159,287	194,962	230,637	266,311	301,986	337,661	373,335	409,010	444,685	480,359	516,034	528,770	535,120	535,120	557,663
1045	Process Cool	Process Cooling & Refrig.	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050			Process Heating																			
1053	Process Heat	Process Heating	Electric Supply System Improvements	183,227	417,460	702,416	987,372	1,272,328	1,557,284	1,842,239	2,127,195	2,412,151	2,697,107	2,982,063	3,267,018	3,551,974	3,836,930	4,121,886	4,223,615	4,274,337	4,274,337	4,454,401
1051	Process Heat	Process Heating	Sensors & Controls	155,834	355,049	597,404	839,758	1,082,113	1,324,467	1,566,822	1,809,176	2,051,531	2,293,885	2,536,240	2,778,594	3,020,949	3,263,303	3,505,658	3,592,179	3,635,318	3,635,318	3,788,461
1054	Process Heat	Process Heating	Industrial Boiler-WWTP Dissolved Oxygen (DO) Aeration	25,301	76,732	154,294	232,228	310,162	354,421	458,113	561,806	665,498	769,191	872,883	951,275	1,003,536	1,029,666	1,036,925	1,036,925	1,036,925	1,036,925	1,036,925
1052	Process Heat	Process Heating	Energy Information System	57,517	131,046	220,498	309,949	399,401	488,852	578,303	667,755	757,206	846,658	936,109	1,025,560	1,115,012	1,204,463	1,293,915	1,325,849	1,341,771	1,341,771	1,398,296
1060			Industrial Other																			
1063	Industrial Other	Other	Barrel Insulation - Inj. Molding (plastics)	2,143	4,882	8,215	11,548	14,881	18,214	21,546	24,879	28,212	31,545	32,734	33,328	33,328	33,328	33,328	33,328	33,328	33,328	33,328
1066	Industrial Other	Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	9,714	22,131	37,238	52,345	67,451	82,558	97,665	112,771	127,878	142,985	158,092	173,198	188,305	203,412	218,518	233,625	248,732	263,838	278,945
1062	Industrial Other	Other	3 Phase High Eff Battery Charger - ROB	1,108	2,524	4,247	5,969	7,692	9,415	11,138	12,861	14,583	16,306	18,029	19,752	21,475	23,197	24,920	26,643	28,366	30,089	31,811
1069	Industrial Other	Other	Hybrid Injection Molding Machine - ROB	3,167	7,217	12,143	17,069	21,995	26,921	31,847	36,773	41,699	46,625	51,551	56,477	61,403	66,329	71,255	76,181	81,107	86,033	90,959
1061	Industrial Other	Other	High Efficiency Welders - ROB	90	273	549	891	1,260	1,629	1,997	2,366	2,734	3,103	3,472	3,840	4,209	4,578	4,946	5,315	5,683	6,052	6,421
1075	Industrial Other	Other	On-Demand ventilation-control for Dust and Fume Collection Systems	2,751	6,268	10,547	14,825	19,104	23,383	27,661	31,940	36,218	40,497	44,776	49,054	53,333	57,611	61,890	63,417	64,179	64,179	66,883
1064	Industrial Other	Other	Pellet Dryer Insulation (plastics)	1,575	3,589	6,039	8,489	10,939	13,389	15,839	18,289	20,739	23,189	24,064	24,500	24,500	24,500	24,500	24,500	24,500	24,500	24,500
1075	Industrial Other	Other	Industrial Air Curtain	2,743	8,318	16,725	27,178	38,418	49,658	60,898	72,138	83,378	94,618	105,858	117,098	128,338	139,577	150,817	159,315	164,980	167,812	177,690
1067	Industrial Other	Other	Lab Fume Hood Ventilation Reduction	285	865	1,739	2,826	3,995	5,164	6,333	7,502	8,670	9,839	11,008	12,177	13,346	14,515	15,683	16,567	17,156	17,451	18,478
1071	Industrial Other	Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	310	787	1,430	2,240	3,273	4,476	5,848	7,265	8,726	10,202	11,678	13,153	14,629	16,105	17,581	19,056	20,532	22,008	23,484
1070	Industrial Other	Other	3 Phase High Eff Battery Charger - Early Replacement	293	889	1,787	2,904	4,104	5,305	6,506	7,707	8,908	10,108	11,309	12,510	13,711	14,912	16,112	17,020	17,625	17,928	18,983
1065	Industrial Other	Other	Injection Molding Machine - efficient (plastics)	364	924	1,679	2,631	3,844	5,256	6,868	8,531	10,247	11,980	13,713	15,446	17,179	18,912	20,644	22,377	24,110	25,843	27,576
1072	Industrial Other	Other	High Efficiency Welders - Early Replacement	57	144	261	409	597	817	1,067	1,328	1,593	1,862	2,131	2,401	2,670	2,939	3,209	3,478	3,747	4,017	4,286
1073	Industrial Other	Other	High Speed Turbo Blower for Wastewater	80	204	370	580	848	1,159	1,515	1,882	2,260	2,643	3,025	3,407	3,790	4,172	4,554	4,936	5,319	5,701	6,083
1074	Industrial Other	Other	Hybrid Injection Molding Machine - Early Replacement	920	2,336	4,247	6,653	9,721	13,293	17,369	21,577	25,916	30,299	34,682	39,065	43,447	47,830	52,213	56,596	60,979	65,362	69,745
1068	Industrial Other	Other	Process Fan Ventilation Reduction	1,290	3,273	5,950	9,322	13,620	18,625	24,336	30,231	36,310	42,451	48,592	54,733	60,874	67,014	73,155	78,006	82,164	85,627	91,064
1080			Agriculture																			
1093	Agricultural	Agriculture	Fan Thermostat Controller	63,999	145,815	245,348	344,880	444,413	543,945	643,478	743,010	842,543	942,076	1,041,608	1,141,141	1,240,673	1,340,206	1,439,738	1,475,271	1,492,988	1,492,988	1,555,883
1081	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	11,047	25,170	42,351	59,531	76,712	93,893	111,074	128,254	145,435	162,616	179,797	196,977	214,158	231,339	248,520	254,653	257,711	257,711	268,568
1086	Agricultural	Agriculture	Milk Pre-Cooler Heat Exchanger	61,338	139,752	235,146	330,541	425,935	521,329	616,723	712,117	807,511	902,905	998,299	1,093,693	1,189,087	1,284,481	1,379,876	1,413,931	1,430,911	1,430,911	1,491,191
1092	Agricultural	Agriculture	Low Pressure Sprinkler Nozzles	23,063	52,547	88,415	124,283	160,151	196,020	231,888	267,756	303,624	339,492	375,360	411,229	447,097	482,965	518,833	531,638	538,023	538,023	560,688
1088	Agricultural	Agriculture	VFD for Process Fans - Agriculture	9,328	28,289	56,884	92,437	130,665	168,894	207,122	245,351	283,580	321,808	360,037	398,265	436,494	474,722	512,951	541,852	561,119	570,753	604,348
1091	Agricultural	Agriculture	Grain Storage Temperature and Moisture Management Controller	5,525	14,023	25,494	39,938	58,354	79,797	104,265	129,522	155,568	181,878	208,187	234,497	260,806	287,116	313,425	334,210	352,021	366,860	390,151
1089	Agricultural	Agriculture	VFD for Process Pumps - Agriculture	11,767	29,867	54,298	85,061	124,285	169,954	222,066	275,860	331,334	387,369	443,404	499,439	555,474	611,509	667,544	711,811	749,747	781,390	830,958
1094	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	1,571	3,986	7,247	11,353	16,589	22,684	29,640	36,820	44,224	51,704	59,183	66,662	74,141	81,620	89,100	95,008	100,072	104,290	110,911
1087	Agricultural	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	7,696	23,339	46,930	76,261	107,800	139,339	170,878	202,417	233,956	265,495	289,338	305,234	313,182	315,390	315,390	315,390	315,390	315,390	315,390
1095	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	14,078	32,076	53,971	75,866	97,760	119,655	141,550	163,445	185,340	207,234	229,129	251,024	272,919	294,814	316,708	324,525	328,422	328,422	342,257
1083	Agricultural	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	Agriculture	VFD for Process Pumps - Irrigation	14,719	37,358	67,918	106,398	155,461	212,585	277,769	345,056	414,446	484,537	539,908	587,360	626,891	658,502	679,529	692,495	697,402	700,205	716,011
1082	Agricultural	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Totals (*1000)			26,243	50,450	79,295	104,404	129,075	153,036	176,969	200,839	224,746	248,488	271,756	294,104	314,768	334,762	354,314	363,587	369,651	372,593	386,281

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

Annual KW Reduction

#	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100		**Computers & Office Equipment**																			
102	Computers & Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	9.23533	11.8111	14.437	14.4149	14.3579	14.3244	14.3874	14.4169	14.437	14.3356	14.3366	14.362881	14.387358	14.388647	14.414914	14.357851	14.336639	14.348765	14.416941
104	Computers & Office Equipment	PC Network Energy Management Controls replacing no central control	3.66179	4.68308	5.72424	5.71549	5.69288	5.67961	5.70456	5.71629	5.72424	5.68404	5.68445	5.6948579	5.7045628	5.705074	5.7154888	5.6928636	5.6844531	5.689261	5.7162925
107	Computers & Office Equipment	High Efficiency CRAC Unit - ROB	0.10859	0.22084	0.33462	0.4154	0.4449	0.44386	0.44581	0.44673	0.44735	0.44421	0.44424	0.4450518	0.4458102	0.4458502	0.4466641	0.4448959	0.4442387	0.4446144	0.4467269
109	Computers & Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	29.6935	37.9752	46.418	46.347	46.1635	46.056	46.2584	46.3535	46.418	46.092	46.0953	46.179701	46.258398	46.262543	46.346997	46.163528	46.095328	46.134315	46.353514
111	Computers & Office Equipment	High Efficiency CRAC Unit - Early Replacement	0.02393	0.03681	0.04993	0.06277	0.07972	0.0926	0.10613	0.10978	0.11337	0.11371	0.11372	0.1139292	0.1141233	0.1141336	0.1143419	0.1138893	0.113721	0.1138172	0.114358
101	Computers & Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers & Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers & Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers & Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers & Office Equipment	Energy Star UPS- Early Replacment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150		**Water Heating**																			
165	Water Heating	Low Flow Faucet Aerator	5.77103	7.35497	8.97883	8.97978	8.97876	8.94575	8.97511	8.97702	8.97883	8.9512	8.97605	8.9751618	8.9751076	8.9494548	8.9797801	8.9787636	8.9760458	8.945693	8.9770246
168	Water Heating	Tank Insulation (electric)	0.52962	0.67499	0.82401	0.8241	0.824	0.82097	0.82367	0.82384	0.82401	0.82148	0.82376	0.8236739	0.8236689	0.8213147	0.8240977	0.8240044	0.823755	0.8209695	0.8238448
171	Water Heating	Process Cooling Condenser Heat Recovery	0.5513	0.70262	0.85774	0.85783	0.85774	0.85458	0.85739	0.85757	0.85774	0.8551	0.85748	0.8573932	0.8573868	0.8549374	0.8578344	0.8577373	0.8574776	0.854578	0.8575711
151	Water Heating	Heat Pump Water Heater-ROB	0.53653	0.68379	0.83475	0.83484	0.83475	0.83168	0.83441	0.83459	0.83475	0.83219	0.8345	0.834413	0.834408	0.8320231	0.8348424	0.8347479	0.8344952	0.8316733	0.8345862
153	Water Heating	Efficient Hot Water Pump-ROB	0.29176	0.37184	0.45393	0.45398	0.45393	0.45226	0.45375	0.45384	0.45393	0.45254	0.45379	0.453749	0.4537463	0.4524494	0.4539825	0.4539311	0.4537937	0.4522592	0.4538432
164	Water Heating	HVAC Condenser Heater Recovery Water Heating	0.23257	0.29641	0.36185	0.36189	0.36185	0.36051	0.3617	0.36178	0.36185	0.36073	0.36174	0.3617002	0.361698	0.3606642	0.3618863	0.3618453	0.3617358	0.3605126	0.3617752
176	Water Heating	Heat Pump Water Heater-Early Replacement	0.13632	0.17373	0.21209	0.21211	0.21208	0.2113	0.212	0.21204	0.21209	0.21143	0.21202	0.211999	0.2119978	0.2113918	0.2121081	0.2120841	0.2120199	0.211303	0.212043
178	Water Heating	Efficient Hot Water Pump-Early Replacement	0.25793	0.32872	0.40129	0.40134	0.40129	0.39982	0.40113	0.40121	0.40129	0.40006	0.40117	0.4011308	0.4011284	0.3999819	0.4013372	0.4012918	0.4011703	0.3998137	0.4012141
167	Water Heating	Hot Water (DHW) Pipe Insulation	0.73278	0.9339	1.14009	1.14021	1.14008	1.13589	1.13962	1.13986	1.14009	1.13658	1.13974	1.1396255	1.1396186	1.1363614	1.1402119	1.1400829	1.1397378	1.1358837	1.1398621
166	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	Heat Pump Storage Water Heating-ROB	0.43699	0.55692	0.67989	0.67996	0.67989	0.67738	0.6796	0.67975	0.67988	0.67779	0.67967	0.6796061	0.679602	0.6776596	0.6799558	0.6798788	0.679673	0.6773747	0.6797472
170	Water Heating	ECM Circulator Pump	0.11419	0.23141	0.3502	0.43546	0.46818	0.46646	0.46799	0.46809	0.46818	0.46674	0.46804	0.4679924	0.4679896	0.466652	0.4682332	0.4681802	0.4680385	0.4664558	0.4680895
152	Water Heating	Electric Tankless Water Heater-ROB	0.00603	0.00925	0.01253	0.01578	0.02012	0.02334	0.02672	0.02759	0.02846	0.02866	0.02874	0.0287335	0.0287333	0.0286512	0.0287483	0.028745	0.0287363	0.0286392	0.0287395
169	Water Heating	Drain Water Heat Recovery Water Heater	0.00095	0.00146	0.00197	0.00249	0.00317	0.00368	0.00421	0.00435	0.00448	0.00452	0.00453	0.0045277	0.0045277	0.0045148	0.0045301	0.0045296	0.0045282	0.0045129	0.0045287
179	Water Heating	Heat Pump Storage Water Heating-Early Replacement	0.02975	0.06029	0.09124	0.11346	0.12198	0.12153	0.12193	0.12196	0.12198	0.12161	0.12194	0.1219326	0.1219318	0.1215833	0.1219953	0.1219815	0.1219446	0.1215322	0.1219579
177	Water Heating	Electric Tankless Water Heater-Early Replacement	0.00606	0.00929	0.01259	0.01585	0.02021	0.02344	0.02684	0.02771	0.02858	0.02878	0.02886	0.0288607	0.0288605	0.028778	0.0288756	0.0288723	0.0288635	0.0287659	0.0288667
300		**Building Envelope**																			
302	Building Envelope	Envelope																			
306	Building Envelope	Space Cooling - Chillers																			
301	Building Envelope	Space Cooling - Chillers																			
309	Building Envelope	Envelope																			
304	Building Envelope	Envelope																			
307	Building Envelope	Space Cooling - Chillers																			
305	Building Envelope	Space Cooling - Chillers																			
303	Building Envelope	Envelope																			
308	Building Envelope	Envelope																			
310	Building Envelope	Envelope																			
320		**Ventilation**																			
322	Ventilation	Ventilation	18.7927	24.0357	29.387	29.3247	29.207	29.146	29.2815	29.3417	29.387	29.1466	29.1709	29.226571	29.281505	29.285399	29.324666	29.206971	29.170936	29.200652	29.341726
323	Ventilation	Ventilation	18.7927	24.0357	29.387	29.3247	29.207	29.146	29.2815	29.3417	29.387	29.1466	29.1709	29.226571	29.281505	29.285399	29.324666	29.206971	29.170936	29.200652	29.341726
324	Ventilation	Ventilation	18.7927	24.0357	29.387	29.3247	29.207	29.146	29.2815	29.3417	29.387	29.1466	29.1709	29.226571	29.281505	29.285399	29.324666	29.206971	29.170936	29.200652	29.341726
333	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	Ventilation	1.82398	2.80678	3.80771	4.7844	6.07585	7.05926	8.0928	8.37104	8.64595	8.66184	8.66908	8.6856105	8.701936	8.7030931	8.7147627	8.6797857	8.6690769	8.677908	8.7198325
321	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340		**Space Cooling - Chillers**																			
363	Space coolers	Space Cooling - Chillers	11.1863	14.2417	17.179	17.2649	17.2681	17.3974	17.515	17.3257	17.179	17.267	17.1878	17.397399	17.515028	17.180639	17.264891	17.268064	17.187828	17.513382	17.325746
368	Space coolers	Space Cooling - Chillers	8.20668	10.4483	12.6032	12.6662	12.6685	12.7634	12.8497	12.7108	12.6032	12.6677	12.6096	12.763372	12.849669	12.604349	12.66616	12.668487	12.609623	12.848462	12.710805
302	Space coolers	Envelope	8.82954	11.2413	13.5597	13.6275	13.63	13.7321	13.8249	13.6755	13.5597	13.6291	13.5666	13.732067	13.824914	13.560975	13.627477	13.62998	13.568649	13.823615	13.67551
370	Space coolers	Space Cooling - Chillers	10.7269	13.6569	16.4735	16.5559	16.5589	16.6829	16.7958	16.6142	16.4735	16.5579	16.482	16.682957	16.796755	16.475098	16.55589	16.558932	16.481992	16.794177	16.614246
364	Space coolers	Space Cooling - Chillers	0.79188	1.00818	1.21611	1.22219	1.22241	1.23157	1.23989	1.2265	1.21611	1.22233	1.21673	1.2315675	1.2398945	1.216223	1.2221872	1.2224118	1.2167319	1.239778	1.2264951
350	Space coolers	Space Cooling - Chillers	0.85321	1.08625	1.31028	1.31683	1.31708	1.32694	1.33591	1.32148	1.31028	1.31699	1.31096	1.3269414	1.3359132	1.3104086	1.3168347	1.3170767	1.310957	1.3357877	1.3214763
351	Space coolers	Space Cooling - Chillers	0.67714	0.86209	1.03989	1.04509	1.04529	1.05311	1.06023	1.04878	1.03989	1.04522	1.04043	1.0531142	1.0602347	1.0399932	1.0450932	1.0452852	1.0404283	1.060135	1.0487769
306	Space coolers	Space Cooling - Chillers	1.51949	1.93453	2.33351	2.34518	2.34561	2.36318	2.37915	2.35344	2.33351	2.34546	2.33471	2.3631765	2.3791546	2.3337329	2.3451773	2.3456082	2.3347094	2.378931	2.3534435
347	Space coolers	Space Cooling - Chillers	4.09165	5.20925	6.28362	6.31504	6.3162	6.3635	6.40653	6.3373	6.28362	6.3158	6.28685	6.363506	6.4065315	6.284221	6.3150382	6.3161985	6.2868506	6.4059295	6.3372972
343	Space coolers	Space Cooling - Chillers	0.8817	1.12253	1.35405	1.36082	1.36107	1.37126	1.38053	1.36561	1.35405	1.36098	1.35474	1.3712605	1.380532	1.3541756	1.3608163	1.3610663	1.3547422	1.3804023	1.3656129
345	Space coolers	Space Cooling - Chillers	2.0907	2.66176	3.21073	3.22678	3.22737	3.25154	3.27353	3.23815	3.21073	3.22717	3.21238	3.251545	3.2735297	3.211033	3.2267795	3.2273724	3.2123766	3.2732221	3.2381532
348	Space coolers	Space Cooling - Chillers	1.96714	2.50444	3.02097	3.03607	3.03663	3.05937	3.08006	3.04677	3.02097	3.03644	3.02252	3.0593733	3.0800586	3.0212556	3.0360715	3.0366294	3.0225198	3.0797692	3.046773
344	Space coolers	Space Cooling - Chillers	0.22386	0.285	0.34379	0.3455	0.34557	0.34816	0.35051	0.34672	0.34379	0.34555	0.34396	0.3481558	0.3505098	0.3438181	0.3455041	0.3455676	0.3439619	0.3504769	0.3467219
301	Space coolers	Space Cooling - Chillers	17.0745	34.5665	51.6871	64.5847	69.4586	69.9788	70.452	69.6907	69.1004	69.4543	69.1359	69.978876	70.452023	69.106986	69.44588	69.45864	69.135904	70.445403	69.69066
346	Space coolers	Space Cooling - Chillers	0.17749	0.22597	0.27257	0.27394	0.27399	0.27604	0.2779	0.2749	0.27257	0.27397	0.27271	0.2760378	0.2779042	0.2725986	0.2739354	0.2739857	0.2727127	0.2778781	0.2749009
371	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	Space Cooling - Chillers	10.426	13.2737	16.0113	16.0914	16.0944	16.2149	16.3245	16.1481	16.0113	16.0933	16.0196	16.214898	16.324532	16.012872	16.091397	16.094354	16.019572	16.322998	16.148115
342	Space coolers	Space Cooling - Chillers	10.5827	13.4733	16.2521	16.3333	16.3363	16.4587	16.57	16.3909	16.2521	16.3353	16.2604	16.458682	16.569964	16.253618	16.333324	16.336325	16.260419	16.568407	16.390895
309	Space coolers	Envelope	1.83706	3.71903	5.56104	6.9487	7.47309	7.52906	7.57997	7.49806	7.43455	7.47262	7.43837	7.5290661	7.5799723	7.4352591	7.4717208	7.4730937	7.4383703	7.5792601	7.4980569
369	Space coolers	Space Cooling - Chillers	0.59245	0.75427	0.90984	0.91439	0.91455	0.9214	0.92763	0.91761	0.90984	0.9145	0.91031	0.9214045	0.9276344	0.9099245	0.9143866	0.9145546	0.9103052	0.9275473	0.9176096
304	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	Space Cooling - Chillers	0.05128	0.10382	0.15525	0.19399	0.20863	0.21019	0.21161	0.20932	0.20755	0.20861	0.20766	0.2101882	0.2116094	0.2075694	0.2085873	0.2086257	0.2076563	0.2115895	0.2093226
354	Space coolers	Space Cooling - Chillers	0.9137	1.39959	1.87324	2.37052	3.02308	3.54609	4.07382	4.15979	4.25345	4.31842	4.29862	4.3510341	4.3804528	4.2968232	4.3178944	4.3186878	4.2986212	4.3800412	4.3331139
307	Space coolers	Space Cooling - Chillers	0.04675	0.07161	0.09585	0.12129	0.15468	0.18144	0.20844	0.21284	0.21763	0.22096	0.21994	0.222626	0.2241313	0.2198523	0.2209304	0.220971	0.2199443	0.2241102	0.2217091
356	Space coolers	Space Cooling - Chillers	0.15886	0.24333	0.32568	0.41214	0.52659	0.61652	0.70827	0.72322	0.73951	0.7508	0.74736	0.756471	0.7615857	0.7470459	0.7507093	0.7509473	0.7473585	0.7615142	0.7533554
357	Space coolers	Space Cooling - Chillers	0.03528	0.05404	0.07233	0.09153	0.11673	0.13692	0.1573	0.16062	0.16423	0.16674	0.16598	0.1680007	0.1691366	0.1659075	0.1667211	0.1667517	0.1659769	0.1691207	0.1673087
353	Space coolers	Space Cooling - Chillers	0.83055	1.27222	1.70276	2.15479	2.74796	3.22337	3.70307	3.78122	3.86635	3.92541	3.90741	3.9550566	3.9817979	3.9057793	3.9249328	3.925654	3.9074137	3.9814238	3.9387673
355	Space coolers	Space Cooling - Chillers	0.17367	0.26602	0.35605	0.45057	0.5746	0.67401	0.77432	0.79066	0.80846	0.82081	0.81704	0.8270056	0.8325972	0.8167017	0.8207067	0.8208575	0.8170434	0.832519	0.8235995
321	Space coolers	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	Space Cooling - Chillers	0.01065	0.01631	0.02183	0.02763	0.03523	0.04133	0.04748	0.04848	0.04957	0.05033	0.0501	0.0507103	0.0510532	0.0500785	0.0503241	0.0503334	0.0500995	0.0510484	0.0505015
362	Space coolers	HVAC Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360		**HVAC Controls**																			
369	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	HVAC Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380		**Space Cooling - Unitary and Split AC**																			
363	Space cooling	Space Cooling - Chillers	105.648	134.505	162.246	163.057	163.087	164.309	165.42	163.632	162.246	163.077	162.329	164.30877	165.41971	162.26159	163.05731	163.08727	162.32949	165.40417	163.63205
368	Space cooling	Space Cooling - Chillers	77.5076	98.6781	119.03	119.625	119.647	120.543	121.358	120.046	119.03	119.639	119.091	120.54296	121.35799	119.04108	119.62484	119.64682	119.09089	121.34658	120.04649
302	Space cooling	Envelope	83.3901	106.167	128.064	128.704	128.728	129.692	130.569	129.158	128.064	128.719	128.129	129.69175	130.56863	128.07587	128.70394	128.72759	128.12947	130.55636	129.1576
370	Space cooling	Space Cooling - Chillers	101.31	128.982	155.583	156.361	156.39	157.561	158.627	156.912	155.583	156.38	155.663	157.56126	158.62657	155.59815	156.36119	156.38992	155.66326	158.61167	156.91232
364	Space cooling	Space Cooling - Chillers	7.47889	9.52168	11.4855	11.5429	11.545	11.6315	11.7101	11.5836	11.4855	11.5443	11.4914	11.631471	11.710115	11.486551	11.5428979	11.545	11.491357	11.709014	11.583565
306	Space cooling	Space Cooling - Chillers	14.4245	18.3644	22.1519	22.2627	22.2668	22.4335	22.5852	22.3411	22.1519	22.2654	22.1633	22.433527	22.585207	22.154021	22.262662	22.266753	22.163291	22.583085	22.341133
301	Space cooling	Space Cooling - Chillers	170.056	344.271	514.786	643.242	691.785	696.966	701.679	694.096	688.217	691.741	688.57	696.96612	701.67851	688.28239	691.65765	691.78474	688.5704	701.61258	694.09559
371	Space cooling	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space cooling	Envelope	23.7296	48.0395	71.8332	89.7578	96.5315	97.2545	97.9121	96.854	96.0337	96.5255	96.083	97.25453	97.912096	96.042805	96.513788	96.531522	96.082993	97.902896	96.853977
391	Space cooling	Space Cooling - Unitary and Split AC	8.3844	10.6745	12.8761	12.9404	12.9428	13.0398	13.1279	12.9861	12.8761	12.942	12.8827	13.039759	13.127925	12.877292	12.940441	12.942819	12.882681	13.126691	12.986053
369	Space cooling	Space Cooling - Chillers	9.10844	11.5963	13.988	14.0579	14.0605	14.1658	14.2616	14.1075	13.988	14.0596	13.9952	14.165827	14.261606	13.98933	14.057933	14.060516	13.995184	14.260286	14.107484
367	Space cooling	Space Cooling - Unitary and Split AC	1.72168	3.48547	5.2118	6.5123	7.00376	7.05622	7.10393	7.02716	6.96764	7.00332	6.97122	7.056222	7.109311	6.9683062	7.0024781	7.0037647	6.9712221	7.1032636	7.0271601
304	Space cooling	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

Annual KW Reduction

#		End Use	Measure Name																				
392	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ROB	2.96758	6.00772	8.98331	11.2249	12.072	12.1624	12.2447	12.1124	12.0098	12.0713	12.0159	12.162449	12.244683	12.010913	12.069813	12.072031	12.015939	12.243532	12.112356
307	Space cooling	Space Cooling - Chillers	Roof Insulation	0.4918	0.75334	1.00828	1.27595	1.62719	1.90871	2.19276	2.23904	2.28945	2.32442	2.31376	2.3419749	2.3578097	2.3127955	2.3241372	2.3245643	2.3137633	2.3575882	2.3323293
398	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ER	2.26547	3.47021	4.64459	5.87758	7.49556	8.79234	10.1008	10.314	10.5462	10.7073	10.6582	10.788147	10.861089	10.653734	10.705979	10.707946	10.658192	10.860068	10.743715
321	Space cooling	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space cooling	Space Cooling - Chillers	Window Improvements	0.17955	0.27504	0.36811	0.46583	0.59407	0.69684	0.80055	0.81744	0.83585	0.84861	0.84472	0.8550245	0.8608056	0.8443715	0.8485122	0.8486681	0.8447248	0.8607247	0.851503
362	Space cooling	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	4.01353	6.14789	8.22842	10.4128	13.2793	15.5766	17.8948	18.2724	18.6838	18.9692	18.8422	19.11245	19.241675	18.874322	18.96688	18.970365	18.88222	19.239867	19.033734
384	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space cooling	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space cooling	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space cooling	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space cooling	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	8.28197	12.6862	16.9794	21.487	27.4019	32.1426	36.926	37.7053	38.5542	39.1431	38.9637	39.438752	39.705409	38.947372	39.138366	39.145557	38.963669	39.701678	39.276319
393	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space cooling	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400			Cooking																				
555	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ROB	0.68557	0.87683	1.07185	1.07029	1.06611	1.06334	1.06805	1.07028	1.07185	1.06445	1.06437	1.0662046	1.0680465	1.0682618	1.0702908	1.066107	1.0643652	1.0651731	1.0702798
564	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ER	1.07068	1.36938	1.67395	1.67152	1.66498	1.66067	1.66801	1.6715	1.67395	1.6624	1.66226	1.6651371	1.6680137	1.66835	1.6715188	1.6649848	1.6622645	1.6635263	1.6715015
554	Lighting	Lighting Controls	Lighting Power Density- Exterior-ROB	7.31788	9.35942	11.4411	11.4245	11.3798	11.3503	11.4005	11.4243	11.4411	11.3621	11.3612	11.380835	11.400496	11.402794	11.424453	11.379794	11.361202	11.369825	11.424335
563	Lighting	Lighting Controls	Lighting Power Density- Exterior-ER	11.3217	14.4802	17.7008	17.6751	17.606	17.5603	17.638	17.6749	17.7008	17.5787	17.5772	17.60761	17.638028	17.641583	17.675091	17.605999	17.577234	17.590576	17.674909
561	Lighting	Lighting Controls	Lighting Power Density - Interior	3.52041	4.50253	5.50396	5.49595	5.47447	5.46027	5.48443	5.4959	5.50396	5.46558	5.46553	5.4749719	5.4844302	5.4855358	5.495955	5.4744712	5.4655268	5.4696755	5.4958981
513	Lighting	Lighting	LED Low Bay Lighting	20.803	26.6066	32.5243	32.477	32.3501	32.2662	32.4089	32.4767	32.5243	32.2999	32.2972	32.353054	32.408945	32.415478	32.477048	32.350095	32.29724	32.321756	32.476712
517	Lighting	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	12.2196	15.6286	19.1046	19.0768	19.0023	18.953	19.0368	19.0766	19.1046	18.9728	18.9712	19.00399	19.03682	19.040658	19.076824	19.002252	18.971205	18.985606	19.076626
515	Lighting	Lighting	High Intensity Fluorescent Fixture (replacing HID)	70.3085	89.9232	109.923	109.764	109.334	109.051	109.533	109.762	109.923	109.165	109.156	109.34447	109.53337	109.55545	109.76354	109.33447	109.15584	109.23869	109.7624
509	Lighting	Lighting	LED Exit Sign	3.89009	4.97535	6.08193	6.07309	6.04935	6.03366	6.06036	6.07303	6.08193	6.03997	6.03947	6.0499049	6.0603565	6.0615781	6.0730914	6.0493516	6.039468	6.0440523	6.0730286
528	Lighting	Lighting	LED Downlight	0.31524	0.40318	0.49285	0.49214	0.49021	0.48894	0.49111	0.49213	0.49285	0.48945	0.48941	0.4902589	0.4911058	0.4912048	0.4921378	0.490214	0.4894131	0.4897846	0.4921327
501	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	34.5915	44.2419	54.0819	54.0033	53.7922	53.6526	53.8901	54.0027	54.0819	53.7088	53.7043	53.797114	53.890051	53.900914	54.003294	53.792194	53.704306	53.745071	54.002735
556	Lighting	Lighting Controls	Stairwell Bi-Level Control	6.45536	8.25627	10.0926	10.0779	10.0385	10.0125	10.0568	10.0778	10.0926	10.0229	10.0221	10.039437	10.056781	10.058808	10.077914	10.038519	10.022118	10.029725	10.077809
562	Lighting	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	Lighting Controls	Occupancy Sensor	34.9978	44.7615	54.7171	54.6375	54.4239	54.2827	54.5229	54.6369	54.7171	54.3395	54.335	54.428904	54.522933	54.533924	54.637505	54.423926	54.335007	54.37625	54.63694
503	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	25.3025	32.3614	39.5591	39.5016	39.3472	39.2451	39.4187	39.5012	39.5591	39.2861	39.2829	39.350763	39.418743	39.426689	39.501576	39.347163	39.282877	39.312696	39.501167
548	Lighting	Lighting	LED Specialty replacing incandescent	12.3204	15.7575	19.2622	19.2342	19.159	19.1093	19.1939	19.234	19.2622	19.1293	19.1277	19.160759	19.193861	19.19773	19.234194	19.159007	19.127704	19.142223	19.233995
551	Lighting	Lighting Controls	Exterior Bi-level Controls	9.78541	12.5153	15.2989	15.2767	15.217	15.1775	15.2447	15.2765	15.2989	15.1934	15.1921	15.218361	15.244652	15.247725	15.276686	15.21697	15.192108	15.203639	15.276528
524	Lighting	Lighting	LED Screw In Replacing Incandescent	5.5308	7.07379	8.6471	8.63453	8.60078	8.57846	8.61642	8.63444	8.6471	8.58743	8.58672	8.6015627	8.6164223	8.6181592	8.6345285	8.600776	8.5867238	8.5932416	8.6344392
530	Lighting	Lighting	Interior Induction Lighting-ROB	8.33053	16.9421	25.673	31.8733	34.1384	34.0498	34.2005	34.272	34.3223	34.0854	34.0826	34.141499	34.20048	34.207374	34.272347	34.138376	34.0826	34.10847	34.271993
553	Lighting	Lighting Controls	Daylight Sensor Controls	81.4935	104.229	127.41	127.225	126.728	126.399	126.958	127.224	127.41	126.531	126.521	126.73946	126.95841	126.984	127.22519	126.72787	126.52081	126.61685	127.22388
559	Lighting	Lighting Controls	Central Lighting Control	55.0493	70.407	86.0665	85.9414	85.6055	85.3834	85.7612	85.9405	86.0665	85.4727	85.4656	85.613294	85.761195	85.778483	85.94141	85.605463	85.465598	85.530472	85.940521
550	Lighting	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	Lighting	Lighting	Interior Induction Lighting-ER	6.75712	13.7422	20.8241	25.8533	27.6906	27.6187	27.741	27.799	27.8397	27.6476	27.6453	27.693121	27.740962	27.746554	27.799256	27.690588	27.645346	27.66633	27.798968
506	Lighting	Lighting	T5 HP replacing T12	44.4416	56.8399	69.4819	69.3809	69.1097	68.9304	69.2354	69.3801	69.4819	69.0025	68.9967	69.115976	69.235377	69.249333	69.380865	69.109654	68.99674	69.049113	69.380147
537	Lighting	Lighting	LED Grow Light	47.4518	60.6899	74.1883	74.0804	73.7908	73.5994	73.925	74.0796	74.1883	73.6763	73.6702	73.797557	73.925046	73.939948	74.080389	73.790807	73.670246	73.726166	74.079623
505	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	3.27873	5.04536	6.84331	8.6044	10.9281	12.6904	14.5452	15.0458	15.5387	15.5874	15.5861	15.613017	15.63999	15.643142	15.672855	15.611589	15.586083	15.597913	15.672693
502	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	4.08163	8.30097	12.5788	15.6167	16.7265	16.6831	16.7569	16.7919	16.8196	16.7005	16.6591	16.728003	16.756901	16.760279	16.792113	16.726473	16.699144	16.71182	16.79194
536	Lighting	Lighting	LED Tube Lighting	5.67663	8.73528	11.8482	14.8972	18.9204	21.9716	25.1828	26.0495	26.9029	26.9872	26.985	27.031585	27.078283	27.083742	27.135185	27.029113	26.984952	27.005435	27.134904
560	Lighting	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	8.36893	17.0202	25.7914	32.0202	34.2957	34.2068	34.3581	34.43	34.4805	34.2425	34.2397	34.298876	34.358129	34.365055	34.430328	34.295739	34.239705	34.265695	34.429971
558	Lighting	Lighting Controls	Occupancy Sensor & Daylight Sensor	8.26124	16.8012	25.4595	31.6082	33.8544	33.7866	33.916	33.9869	34.0368	33.8019	33.7991	33.857534	33.916024	33.922861	33.987294	33.854437	33.799125	33.82478	33.986942
512	Lighting	Lighting	LED High Bay Lighting	10.2822	15.8224	21.4608	26.9836	34.2709	39.7976	45.6141	47.184	48.7299	48.8825	48.8784	48.962881	49.047467	49.057353	49.150533	48.958402	48.878413	48.915514	49.150024
508	Lighting	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	Lighting Controls	Garage Bi-level Controls	1.08215	2.2008	3.33497	4.14039	4.43463	4.42312	4.44269	4.45198	4.45851	4.42775	4.42738	4.4350331	4.4426949	4.4435904	4.4520306	4.4346275	4.4273821	4.4307427	4.4519845
542	Lighting	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	7.5927	11.6838	15.8474	19.9256	25.3067	29.3878	33.6829	34.8422	35.9837	36.0963	36.0934	36.155726	36.218187	36.225488	36.294294	36.152419	36.093352	36.120749	36.293919
545	Lighting	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
546	Lighting	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
559	Lighting	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600			Refrigeration																				
614	Process cooli	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process cooli	Refrigeration	H.E. Evaporative Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process cooli	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process cooli	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process cooli	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process cooli	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process cooli	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process cooli	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process cooli	Refrigeration	Zero-Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process cooli	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process cooli	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process cooli	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process cooli	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process cooli	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process cooli	Refrigeration	Reach-in Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process cooli	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process cooli	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process cooli	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process cooli	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process cooli	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process cooli	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700			Compressed Air																				
800			Space Heating																				
363	Space Heating	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space Heating	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
302	Space Heating	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space Heating	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space Heating	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space Heating	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	Space Heating	Space Heating	VFD Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space Heating	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space Heating	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
369	Space Heating	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Space Heating	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Space Heating	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

#		End Use	Measure Name	Annual KW Reduction																		
805	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Space Heating	Ventilation	Destratification Fan (HVLS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
321	Space Heating	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space Heating	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Heating	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900			**Other**																			
913	Other	Other	Engine Block Heater Timer	0.35997	0.45885	0.55978	0.55989	0.55979	0.55824	0.55982	0.55981	0.55978	0.5584	0.55972	0.5598346	0.5598201	0.5581911	0.5598924	0.5597882	0.5597201	0.5582214	0.5598097
911	Other	Other	Parking Garage Exhaust Fan CO Control	0.16966	0.34388	0.52005	0.64671	0.69526	0.69333	0.6953	0.69528	0.69525	0.69353	0.69517	0.6953146	0.6952966	0.6932733	0.6953863	0.6952569	0.6951724	0.693311	0.6952837
903	Other	Other	NEMA Premium Transformer, three-phase-ROB	0.01281	0.01965	0.0266	0.0335	0.04271	0.04959	0.05675	0.05858	0.0604	0.06086	0.06101	0.0610199	0.0610183	0.0608407	0.0610262	0.0610148	0.0610074	0.0608441	0.0610172
909	Other	Other	High Efficiency Transformer, three-phase-ROB	0.01351	0.02072	0.02805	0.03532	0.04503	0.05228	0.05982	0.06175	0.06368	0.06416	0.06432	0.0643296	0.0643279	0.0641407	0.0643362	0.0643242	0.0643164	0.0641442	0.0643267
901	Other	Other	High Efficiency Transformer, single-phase-ROB	0.01361	0.02087	0.02826	0.03559	0.04536	0.05267	0.06027	0.06222	0.06416	0.06465	0.0648	0.0648115	0.0648099	0.0646213	0.0648182	0.0648062	0.0647983	0.0646248	0.0648086
902	Other	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000			**Machine Drive**																			
1022	Machine Drive	Machine Drive	Air-Entraining Air Nozzles	22.605	28.8143	35.1524	35.1592	35.1526	35.0551	35.1546	35.154	35.1524	35.0655	35.1483	35.155525	35.154614	35.052318	35.159152	35.152612	35.148335	35.054225	35.153962
1006	Machine Drive	Machine Drive	Advanced Lubricants	270.893	345.303	421.258	421.339	421.26	420.092	421.284	421.276	421.258	420.216	421.209	421.29516	421.28424	420.05835	421.33863	421.26025	421.20899	420.0812	421.27643
1010	Machine Drive	Machine Drive	Compressed Air System Management	410.282	522.981	638.019	638.141	638.022	636.253	638.059	638.047	638.019	636.44	637.945	638.07524	638.05871	636.20202	638.14107	638.02236	637.94473	636.23663	638.04687
1018	Machine Drive	Machine Drive	Storage Tank Addition (comp air)	11.5769	14.7569	18.0028	18.0063	18.0029	17.953	18.004	18.0036	18.0028	17.9583	18.0008	18.004435	18.003969	17.951579	18.006293	18.002943	18.000753	17.952555	18.003635
1023	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	14.9524	19.0596	23.2521	23.2565	23.2522	23.1877	23.2535	23.2531	23.2521	23.1946	23.2494	23.254133	23.25353	23.185865	23.256532	23.252206	23.249376	23.187126	23.253099
1029	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	99.088	126.306	154.089	154.119	154.09	153.663	154.099	154.096	154.089	153.708	154.071	154.10267	154.09867	153.65026	154.11856	154.08989	154.07115	153.65862	154.09581
1019	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - ROB	12.1926	15.5417	18.9603	18.964	18.9604	18.9078	18.9615	18.9612	18.9603	18.9134	18.9581	18.962	18.961508	18.906332	18.963956	18.960428	18.958121	18.90736	18.961156
1030	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	115.929	147.773	180.278	180.313	180.279	179.779	180.289	180.286	180.278	179.832	180.257	180.29417	180.28949	179.76487	180.31277	180.27922	180.25729	179.77465	180.28615
1016	Machine Drive	Machine Drive	Elec motors replacing pneumatic (comp air)	40.1474	51.1753	62.4321	62.4441	62.4325	62.2593	62.436	62.4349	62.4321	62.2777	62.4249	62.437643	62.436025	62.254343	62.444085	62.432469	62.424872	62.257729	62.434867
1008	Machine Drive	Machine Drive	Pump System Efficiency Improvements	94.0542	119.89	146.261	146.289	146.262	145.856	146.27	146.268	146.261	145.899	146.244	146.27408	146.27029	145.84466	146.28917	146.26196	146.24416	145.85259	146.26758
1015	Machine Drive	Machine Drive	Compressed Air Audits and Leak Repair	683.156	870.81	1062.36	1062.56	1062.36	1059.42	1062.42	1062.4	1062.36	1059.73	1062.23	1062.4516	1062.424	1059.3325	1062.5612	1062.3635	1062.2342	1059.3901	1062.4043
1025	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	14.9232	19.0225	23.2067	23.2112	23.2069	23.1425	23.2082	23.2077	23.2067	23.1493	23.204	23.208782	23.20818	23.140647	23.211176	23.206858	23.204035	23.141906	23.20775
1007	Machine Drive	Machine Drive	Motor System Optimization (Including ASD)	297.265	378.919	462.268	462.356	462.27	460.989	462.297	462.288	462.268	461.124	462.214	462.30875	462.29676	460.95153	462.35644	462.27043	462.21418	460.9766	462.28819
1003	Machine Drive	Machine Drive	Electric Supply System Improvements	67.4613	85.992	104.907	104.927	104.908	104.617	104.914	104.912	104.907	104.648	104.895	104.91655	104.91383	104.60854	104.92737	104.90785	104.89509	104.61423	104.91189
1014	Machine Drive	Machine Drive	High Efficiency Pumps - ROB	34.3628	43.8018	53.4366	53.4468	53.4369	53.2887	53.4399	53.439	53.4366	53.3044	53.4304	53.441329	53.439944	53.284439	53.446842	53.4369	53.430398	53.287338	53.438953
1028	Machine Drive	Machine Drive	Synchronous belt drives	205.52	261.974	319.599	319.66	319.6	318.714	319.619	319.613	319.599	318.808	319.562	319.62697	319.61869	318.68863	319.65994	319.60048	319.56159	318.70596	319.61276
1024	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	12.7027	16.192	19.7537	19.7575	19.7538	19.699	19.7549	19.7546	19.7537	19.7048	19.7514	19.755433	19.754921	19.697436	19.757471	19.753796	19.751392	19.698508	19.754555
1001	Machine Drive	Machine Drive	Sensors & Controls	25.3046	32.2554	39.3505	39.3581	39.3507	39.2416	39.353	39.3522	39.3505	39.2532	39.3459	39.353995	39.352975	39.238462	39.358055	39.350734	39.345946	39.240597	39.352246
1013	Machine Drive	Machine Drive	VFD for Process Pumps	151.195	192.726	235.118	235.163	235.12	234.468	235.133	235.129	235.118	234.537	235.091	235.13924	235.13314	234.44893	235.1635	235.11975	235.09114	234.46168	235.12878
1012	Machine Drive	Machine Drive	VFD for Process Fans	42.6359	54.3474	66.3018	66.3146	66.3022	66.1184	66.306	66.3048	66.3018	66.1379	66.2942	66.307744	66.306026	66.113082	66.314585	66.302249	66.294182	66.116678	66.304796
1005	Machine Drive	Machine Drive	Industrial Motor Management	33.9654	43.2952	52.8186	52.8288	52.819	52.6725	52.822	52.821	52.8186	52.688	52.8125	52.823329	52.82196	52.668254	52.828779	52.818951	52.812525	52.671119	52.820981
1027	Machine Drive	Machine Drive	Receiver Capacity Addition	14.3437	18.2837	22.3055	22.3098	22.3056	22.2438	22.3069	22.3065	22.3055	22.2503	22.3029	22.307471	22.306893	22.241982	22.309772	22.305622	22.302908	22.243192	22.306479
1009	Machine Drive	Machine Drive	Fan System Improvements	7.48361	9.53926	11.6376	11.6398	11.6376	11.6054	11.6383	11.6381	11.6376	11.6088	11.6362	11.638591	11.638289	11.604423	11.639791	11.637626	11.63621	11.605054	11.638073
1021	Machine Drive	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	4.17656	8.4655	12.8024	15.9205	17.1156	17.0682	17.1166	17.1163	17.1155	17.0732	17.1135	17.117035	17.116591	17.066784	17.118801	17.115616	17.113534	17.067712	17.116274
1026	Machine Drive	Machine Drive	High Efficiency Pumps - Early Replacement	8.75037	17.7362	26.8225	33.3553	35.8592	35.7597	35.8612	35.8606	35.859	35.7703	35.8548	35.862161	35.861231	35.756879	35.86586	35.859189	35.854825	35.758824	35.860566
1017	Machine Drive	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	7.6891	9.80119	11.9571	11.9594	11.9572	11.924	11.9579	11.9576	11.9571	11.9275	11.9557	11.958162	11.957852	11.923055	11.959395	11.95717	11.955716	11.923704	11.95763
1031	Machine Drive	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	6.97136	10.6916	14.4726	18.227	23.2359	26.9783	30.8724	31.8677	32.8621	33.1119	33.1902	33.196959	33.196099	33.099502	33.200384	33.194208	33.190169	33.101302	33.195483
1011	Machine Drive	Machine Drive	Compressed Air - Advanced Compressor Controls	9.50376	12.1143	14.779	14.7819	14.7791	14.7381	14.78	14.7797	14.779	14.7425	14.7773	14.780346	14.779963	14.736955	14.781871	14.779121	14.777323	14.737757	14.779689
1002	Machine Drive	Machine Drive	Energy Information System	7.1128	9.06659	11.0609	11.063	11.061	11.0303	11.0616	11.0614	11.0609	11.0336	11.0596	11.061905	11.061618	11.02943	11.063046	11.060988	11.059642	11.03003	11.061413
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1040			**Process Cooling & Refrigeration**																			
1048	Process Cooli	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	7.67086	9.78	11.93	11.9302	11.9304	11.8977	11.9298	11.9299	11.93	11.8983	11.9301	11.929797	11.929797	11.89793	11.930232	11.93041	11.930094	11.897695	11.929915
1049	Process Cooli	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	9.21406	11.7475	14.3301	14.3303	14.3305	14.2912	14.3298	14.3299	14.3301	14.292	14.3302	14.3298	14.3298	14.291522	14.330322	14.330537	14.330157	14.29124	14.329942
1046	Process Cooli	Process Cooling & Refrig	Floating Head Pressure Control	13.5723	17.3041	21.1082	21.1086	21.1089	21.051	21.1078	21.108	21.1082	21.0521	21.1083	21.107796	21.107796	21.051412	21.108565	21.108881	21.108321	21.050997	21.108004
1043	Process Cooli	Process Cooling & Refrig	Electric Supply System Improvements	13.2059	16.8369	20.5383	20.5386	20.5389	20.4826	20.5379	20.5381	20.5383	20.4837	20.5384	20.537885	20.537885	20.483024	20.538633	20.538941	20.538396	20.48262	20.538088
1041	Process Cooli	Process Cooling & Refrig	Sensors & Controls	11.0197	14.0496	17.1383	17.1386	17.1389	17.0919	17.138	17.1381	17.1383	17.0928	17.1384	17.137977	17.137977	17.092197	17.138601	17.138858	17.138403	17.091861	17.138146
1044	Process Cooli	Process Cooling & Refrig	Improved Refrigeration	41.8392	53.3431	65.0701	65.0712	65.0721	64.8937	65.0688	65.0694	65.0701	64.8971	65.0704	65.06879	65.06879	64.894975	65.07116	65.072135	65.070408	64.893697	65.069433
1047	Process Cooli	Process Cooling & Refrig	Refrigerant charging correction	57.1106	72.8134	88.8207	88.8221	88.8235	88.5799	88.8189	88.8198	88.8207	88.5846	88.8211	88.818898	88.818898	88.581641	88.822134	88.823465	88.821106	88.579896	88.819776
1042	Process Cooli	Process Cooling & Refrig	Energy Information System	3.1157	3.97238	4.84566	4.84574	4.84581	4.83253	4.84556	4.84561	4.84566	4.83278	4.84568	4.8455643	4.8455643	4.8326207	4.8457409	4.8458135	4.8456848	4.8325255	4.8456122
1045	Process Cooli	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050			**Process Heating**																			
1053	Process Heati	Process Heating	Electric Supply System Improvements	25.2939	32.2417	39.3338	39.3413	39.334	39.2249	39.3363	39.3355	39.3338	39.2365	39.3292	39.33727	39.33625	39.221786	39.341328	39.33401	39.329224	39.22392	39.335521
1051	Process Heati	Process Heating	Sensors & Controls	21.5124	27.4216	33.4533	33.4597	33.4535	33.3607	33.4554	33.4548	33.4533	33.3706	33.4494	33.456291	33.455424	33.358072	33.459742	33.453518	33.449447	33.359886	33.454803
1054	Process Heati	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	3.49272	7.07943	10.7062	13.3138	14.3132	14.2735	14.3141	14.3138	14.3132	14.2778	14.3115	14.314427	14.314056	14.272404	14.315904	14.313241	14.311499	14.27318	14.313791
1052	Process Heati	Process Heating	Energy Information System	7.94008	10.1211	12.3474	12.3498	12.3475	12.3132	12.3482	12.3479	12.3474	12.3169	12.346	12.348492	12.348172	12.31224	12.349766	12.347468	12.345966	12.312909	12.347943
1060			**Industrial Other**																			
1063	Industrial Othe	Other	Barrel Insulation - Inj. Molding (plastics)	0.29583	0.37709	0.46004	0.46012	0.46004	0.45876	0.46007	0.46006	0.46004	0.4589	0.45998	0.4600774	0.4600655	0.4587268	0.4601249	0.4600393	0.4599833	0.4587517	0.460057
1066	Industrial Othe	Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	1.34093	1.70927	2.08525	2.08565	2.08526	2.07948	2.08538	2.08534	2.08525	2.08009	2.08501	2.0854325	2.0853784	2.0793102	2.0856476	2.0852596	2.0850059	2.0794233	2.0853398
1062	Industrial Othe	Other	3 Phase High Eff Battery Charger - ROB	0.15292	0.19493	0.23781	0.23785	0.23781	0.23715	0.23782	0.23782	0.23781	0.23722	0.23778	0.2378263	0.2378201	0.2371281	0.2378508	0.2378065	0.2377776	0.237141	0.2378157
1069	Industrial Othe	Other	Hybrid Injection Molding Machine - ROB	0.43726	0.55736	0.67996	0.6801	0.67997	0.67808	0.68001	0.68	0.67996	0.67828	0.67989	0.6800253	0.6800077	0.6780289	0.6800955	0.679969	0.6798862	0.6780658	0.6799951
1061	Industrial Othe	Other	High Efficiency Welders - ROB	0.01242	0.02517	0.03806	0.04733	0.05088	0.05074	0.05089	0.05089	0.05088	0.05076	0.05088	0.0508876	0.0508863	0.0507382	0.0508928	0.0508834	0.0508772	0.050741	0.0508853
1076	Industrial Othe	Other	On-Demand ventilation control for Dust and Fume Collection Systems	0.37979	0.48411	0.59059	0.59071	0.5906	0.58896	0.59063	0.59062	0.59059	0.58913	0.59053	0.5906472	0.5906319	0.5889132	0.5907081	0.5905982	0.5905264	0.5889452	0.5906209
1064	Industrial Othe	Other	Pellet Dryer Insulation (plastics)	0.21747	0.27721	0.33819	0.33825	0.33819	0.33725	0.33821	0.3382	0.33819	0.33735	0.33815	0.338216	0.3382072	0.3372231	0.3382509	0.338188	0.3381468	0.3372414	0.338201
1075	Industrial Othe	Other	Industrial Air Curtain	0.3786	0.76739	1.16052	1.44317	1.55151	1.54721	1.5516	1.55157	1.5515	1.54766	1.55132	1.5516378	1.5515976	1.5470826	1.5517979	1.5515092	1.5513204	1.5471668	1.5515688
1067	Industrial Othe	Other	Lab Fume Hood Ventilation Reduction	0.03937	0.0798	0.12068	0.15008	0.16134	0.16089	0.16135	0.16135	0.16134	0.16094	0.16132	0.1613546	0.1613504	0.1608809	0.1613713	0.1613412	0.1613216	0.1608897	0.1613474
1071	Industrial Othe	Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	0.04278	0.06561	0.08881	0.11185	0.14259	0.16556	0.18946	0.19556	0.20167	0.2032	0.20368	0.2037221	0.2037168	0.203124	0.2037431	0.2037052	0.2036805	0.2031351	0.2037131
1070	Industrial Othe	Other	3 Phase High Eff Battery Charger - Early Replacement	0.04045	0.08198	0.12398	0.15418	0.16575	0.16529	0.16576	0.16576	0.16575	0.16534	0.16573	0.1657678	0.1657635	0.1652811	0.1657849	0.165754	0.1657339	0.1652901	0.1657604
1065	Industrial Othe	Other	Injection Molding Machine - efficient (plastics)	0.05024	0.07705	0.10429	0.13135	0.16744	0.19441	0.22247	0.22965	0.23681	0.23861	0.23918	0.2392264	0.2392202	0.2385241	0.239251	0.2392065	0.2391774	0.238537	0.2392157
1072	Industrial Othe	Other	High Efficiency Welders - Early Replacement	0.00781	0.01197	0.01621	0.02041	0.02602	0.03022	0.03458	0.03569	0.03681	0.03709	0.03717	0.0371813	0.0371804	0.0370722	0.0371852	0.0371782	0.0371737	0.0370742	0.0371797
1073	Industrial Othe	Other	High Speed Turbo Blower for Wastewater	0.01108	0.017	0.02301	0.02897	0.03694	0.04289	0.04908	0.05066	0.05224	0.05264	0.05276	0.0527722	0.0527708	0.0526172	0.0527776	0.0527678	0.0527614	0.0526201	0.0527698
1074	Industrial Othe	Other	Hybrid Injection Molding Machine - Early Replacement	0.12706	0.19486	0.26378	0.3322	0.42349	0.4917	0.56268	0.58082	0.59894	0.60349	0.60492	0.6050428	0.6050271	0.6032666	0.6051052	0.6049927	0.6049191	0.6032994	0.6050159
1068	Industrial Othe	Other	Process Fan Ventilation Reduction	0.17802	0.27302	0.36957	0.46544	0.59335	0.68892	0.78836	0.81377	0.83917	0.84555	0.84754	0.847717	0.847695	0.8452283	0.8478044	0.8476467	0.8475436	0.8452743	0.8476793
1080			**Agriculture**																			
1093	Agricultural	Agriculture	Fan Thermostat Controller	8.83492	11.2618	13.7389	13.7416	13.739	13.7009	13.7398	13.7395	13.7389	13.705	13.7374	13.740161	13.739804	13.699823	13.741578	13.739022	13.73735	13.700568	13.73955
1081	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	1.52504	1.94394	2.37154	2.372	2.37155	2.36498	2.37169	2.37165	2.37154	2.36567	2.37127	2.3717515	2.3716901	2.3647887	2.3719962	2.371555	2.3712664	2.3649173	2.3716461
1086	Agricultural	Agriculture	Milk Pre-Cooler Heat Exchanger	8.46758	10.7935	13.1677	13.1702	13.1678	13.1313	13.1685	13.1683	13.1677	13.1351	13.1662	13.168859	13.168518	13.130199	13.170218	13.167768	13.166166	13.130913	13.168274
1092	Agricultural	Agriculture	Low Pressure Sprinkler Nozzles	3.18381	4.05836	4.95105	4.952	4.95108	4.93735	4.95136	4.95127	4.95105	4.9388	4.95048	4.9514912	4.9513628	4.9369549	4.952002	4.9510808	4.9504784	4.9372234	4.951271
1088	Agricultural	Agriculture	VFD for Process Fans - Agriculture	1.28767	2.60999	3.9471	4.90843	5.2769	5.26227	5.2772	5.2771	5.27687	5.26381	5.27626	5.277336	5.2771992	5.2618431	5.2778804	5.2768986	5.2762565	5.2621293	5.2771013
1091	Agricultural	Agriculture	Grain Storage Temperature and Moisture Management Controller	0.76271	1.16973	1.58339	1.99414	2.54215	2.95158	3.37762	3.48651	3.59531	3.62264	3.6312	3.6319454	3.6318513	3.621283	3.6323201	3.6316444	3.6312025	3.62148	3.6317839
1089	Agricultural	Agriculture	VFD for Process Pumps - Agriculture	1.62444	2.49132	3.37235	4.2472	5.41436	6.28638	7.19378	7.4257	7.65741	7.71562	7.73386	7.735443	7.7352426	7.7127338	7.7362411	7.7348019	7.7338608	7.7131533	7.7350991
1094	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	0.21682	0.33253	0.45012	0.56689	0.72268	0.83907	0.96018	0.99114	1.02206	1.02983	1.03227	1.0324793	1.0324525	1.0294482	1.0325858	1.0323937	1.0322681	1.0295042	1.0324334
1087	Agricultural	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	1.06234	2.15327	3.2564	4.0495	4.3535	4.34142	4.35374	4.35366	4.35347	4.3427	4.35297	4.3538568	4.3537439	4.341075	4.3543059	4.3534959	4.3529662	4.3413111	4.3536632
1095	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	1.94347	2.47732	3.02224	3.02282	3.02226	3.01388	3.02243	3.02238	3.02224	3.01477	3.02189	3.0225105	3.0224322	3.0136372	3.0228223	3.02226	3.0218923	3.0138011	3.0223761
1083	Agricultural	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	Agriculture	VFD for Process Pumps - Irrigation	2.03192	3.11625	4.21827	5.31256	6.7725	7.86325	8.99826	9.28835	9.57819	9.65101	9.67382	9.6757953	9.6755445	9.6473897	9.6767935	9.6749934	9.6738162	9.6479145	9.6753651
1082	Agricultural	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Totals (*1000)		4.36	5.77	7.21	7.45	7.56	7.59	7.65	7.64	7.64	7.63	7.63	7.66	7.67	7.62	7.65	7.64	7.63	7.65	7.65

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

Cumulative KW Savings

#	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100		Computers & Office Equipment																			
102	Computers &	Appliances, Computers, Office Equipment	9.2353326	21.0502	35.587166	49.9476748	54.875708	57.297679	57.54943	57.667763	57.747937	57.342372	57.346557	57.451525	57.54943	57.554588	57.659655	57.431405	57.346557	57.39506	57.667763
104	Computers &	Office Equipment	3.6617937	8.3463686	14.110251	19.8041675	21.758125	22.718432	22.818251	22.86517	22.899659	22.736153	22.737812	22.779432	22.818251	22.820296	22.861955	22.771454	22.737812	22.757044	22.86517
107	Computers &	Appliances, Computers, Office Equipment	0.1085926	0.3294726	0.6656538	1.080033765	1.5206543	1.9609735	2.4153998	2.8670932	3.3184272	3.7393281	4.1838397	4.6365495	5.0902611	5.5365675	5.9933387	6.3059549	6.520535	6.6380928	7.0622161
109	Computers &	Appliances, Computers, Office Equipment	29.693548	67.680846	114.42027	160.5923439	176.43701	184.22416	185.03359	185.41405	185.67183	184.36785	184.38131	184.7188	185.03359	185.05017	185.38799	184.65411	184.38131	184.53726	185.41405
111	Computers &	Appliances, Computers, Office Equipment	0.0239251	0.060749	0.110967	0.173571036	0.2526064	0.3446219	0.4522708	0.5629844	0.6771389	0.7860961	0.8998745	1.0154508	1.1313047	1.2455396	1.3621553	1.4467356	1.5215874	1.5870673	1.6958491
101	Computers &	Appliances, Computers, Office Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	Appliances, Computers, Office Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	Office Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	Appliances, Computers, Office Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	Appliances, Computers, Office Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160		Water Heating																			
165	Water Heating	Water Heating	5.771029	13.108318	22.132825	31.1493792	40.090179	48.888506	58.02407	67.013489	76.005828	84.723148	88.162721	89.751618	89.751076	89.494548	89.797801	89.787636	89.760458	89.45693	89.770246
168	Water Heating	Water Heating	0.5296223	1.2029844	2.0311868	2.855498589	3.6791798	4.4866251	5.3250195	6.1500018	6.975252	7.7752631	8.6205962	9.4434211	10.267033	11.059002	11.920573	12.213394	12.356325	12.314542	12.87826
171	Water Heating	Water Heating	0.5513038	1.2522318	2.1143389	2.972396091	3.8297969	4.6702971	5.5430135	6.4017686	7.2608027	8.0935644	8.9735034	9.8300129	10.687342	11.511732	12.408574	12.713382	12.862164	12.818671	13.405466
151	Water Heating	Water Heating	0.5365276	1.219869	2.0576696	2.892728882	3.7271493	4.5451222	5.3944477	6.2301861	7.0661961	7.8766378	8.7329924	9.5665454	10.400898	11.203191	12.075995	12.372633	12.517428	12.4751	13.046168
153	Water Heating	Water Heating	0.2917606	0.6627052	1.1189489	1.573049282	2.0268023	2.4716112	2.9334695	3.3879393	3.8425567	4.2832702	4.7489509	5.2022322	5.655947	6.0922305	6.5668565	6.7281666	6.8069053	6.7838875	7.0944311
164	Water Heating	Water Heating	0.2325732	0.5282669	0.8919557	1.253935939	1.6156393	1.970213	2.3383774	2.7006521	3.0630445	3.4143536	3.7855649	4.1468923	4.5085652	4.8563429	5.234685	5.3632712	5.4260367	5.4076884	5.6552342
176	Water Heating	Water Heating	0.1363154	0.3096268	0.5227914	0.734954631	0.9469555	1.1547776	1.3705655	1.5829012	1.795306	2.0012147	2.2187884	2.4305689	2.642552	2.8463908	3.0681439	3.1435107	3.1802987	3.1695444	3.3146355
178	Water Heating	Water Heating	0.2579271	0.5858558	0.989192	1.390633415	1.7917678	2.1849952	2.5932949	2.9950629	3.3969614	3.7865684	4.1982473	4.5989846	5.0000652	5.3857558	5.8053427	5.9479467	6.0175546	5.997206	6.271738
167	Water Heating	Water Heating	0.7327792	1.6644351	2.8103262	3.950834381	5.09047	6.2076419	7.3676346	8.5090704	9.6508769	10.757763	11.927356	13.065807	14.205346	15.301106	16.493166	17.631382	18.765783	19.838209	21.047553
166	Water Heating	Water Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	Water Heating	0.4369867	0.9925719	1.6759144	2.356046887	3.035659	3.7018751	4.393627	5.0743126	5.7552194	6.4153015	6.6757487	6.7960611	6.7960201	6.7765956	6.7995581	6.7987884	6.7967305	6.7737471	6.7974717
170	Water Heating	Water Heating	0.1141901	0.3452531	0.6966576	1.132187937	1.60024	2.0608142	2.5355676	3.0041987	3.472988	3.9290442	4.4079867	4.8755449	5.3435051	5.7948842	6.2827534	6.6359865	6.8698692	6.9641854	7.399934
152	Water Heating	Water Heating	0.006034	0.015268	0.0278542	0.043639923	0.0637565	0.0868631	0.1138702	0.1414845	0.1699708	0.1981046	0.2273907	0.2561018	0.2848336	0.3126707	0.3424785	0.3711848	0.3998088	0.427096	0.4573314
169	Water Heating	Water Heating	0.0009508	0.0024059	0.0043892	0.006876655	0.0100466	0.0136876	0.0179433	0.0222947	0.0267835	0.0312168	0.0358316	0.0403558	0.0448833	0.0492698	0.0539668	0.0584902	0.0630007	0.0673006	0.072065
179	Water Heating	Water Heating	0.0297515	0.0899536	0.1815099	0.294984619	0.4169327	0.5369325	0.6606266	0.7827255	0.9048657	1.0236884	1.1187194	1.1800632	1.2107829	1.2158331	1.219529	1.2198148	1.2194456	1.215322	1.195786
177	Water Heating	Water Heating	0.0060607	0.0153356	0.0279775	0.043833087	0.0640387	0.0872476	0.1143743	0.1421107	0.1707231	0.1989815	0.2283972	0.2572354	0.2860944	0.3140547	0.3439944	0.3728278	0.4015785	0.4289865	0.4593557
350		Building Envelope																			
302	Building Envel	Envelope																			
306	Building Envel	Space Cooling - Chillers																			
301	Building Envel	Space Cooling - Chillers																			
309	Building Envel	Envelope																			
304	Building Envel	Envelope																			
307	Building Envel	Space Cooling - Chillers																			
305	Building Envel	Space Cooling - Chillers																			
303	Building Envel	Envelope																			
308	Building Envel	Envelope																			
310	Building Envel	Envelope																			
320		Ventilation																			
322	Ventilation	Ventilation	18.792685	42.837261	72.438918	101.6099677	130.40912	159.283	189.30493	219.03598	248.76083	275.87245	305.27384	335.08263	364.99396	394.32789	424.18129	432.90572	437.56404	438.00978	458.66692
323	Ventilation	Ventilation	18.792685	42.837261	72.438918	101.6099677	130.40912	159.283	189.30493	219.03598	248.76083	275.87245	305.27384	335.08263	364.99396	394.32789	424.18129	432.90572	437.56404	438.00978	458.66692
324	Ventilation	Ventilation	18.792685	42.837261	72.438918	101.6099677	130.40912	159.283	189.30493	219.03598	248.76083	275.87245	305.27384	335.08263	364.99396	394.32789	424.18129	432.90572	437.56404	438.00978	458.66692
333	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	Ventilation	1.8239782	4.6316291	8.462551	13.22900978	19.251765	26.270853	34.485772	42.927735	51.639901	59.879306	68.598405	77.414847	86.262291	94.976855	103.81897	110.25932	115.99225	121.00475	129.30901
321	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340		Space Cooling - Chillers																			
363	Space coolers	Space Cooling - Chillers	11.186304	25.382177	42.346247	59.82284845	77.101904	95.076745	113.23466	129.33669	145.42028	163.43194	179.87063	199.46118	218.32482	231.33731	249.73665	255.94724	257.81743	262.70073	270.83433
368	Space coolers	Space Cooling - Chillers	8.2066844	18.621299	31.066765	43.88824299	56.564794	69.751799	83.07311	94.886158	106.68567	111.75436	113.48661	114.87035	115.64702	113.43914	113.99544	114.01638	113.48661	115.63616	114.39724
302	Space coolers	Envelope	8.8295428	20.03459	33.424624	47.21920612	60.857863	75.045715	89.378067	102.08768	114.78273	128.99985	141.97499	157.43815	172.32755	182.59853	197.12145	210.78765	223.37488	241.42943	252.5183
370	Space coolers	Space Cooling - Chillers	10.726927	24.339832	40.607254	57.36616038	73.935633	91.172319	108.58456	124.02535	139.44844	156.72044	172.48405	191.2701	209.35909	221.8372	239.48096	245.4365	247.22988	251.91265	259.71223
364	Space coolers	Space Cooling - Chillers	0.7918821	1.7968125	2.9977045	4.234878739	5.4580687	6.7305135	8.0159178	9.1557863	10.294348	11.5694	12.7331	14.119921	15.455285	16.376443	17.678938	18.904598	20.033491	21.652722	22.647233
350	Space coolers	Space Cooling - Chillers	0.8532063	1.9359596	3.2985	4.562832312	5.8807474	6.3985087	6.6795662	6.6073813	6.5514199	6.5846692	6.5547848	6.634707	6.6795662	6.5520431	6.5841736	6.5853834	6.5547848	6.6789386	6.6073813
375	Space coolers	Space Cooling - Chillers	0.6771389	1.5364557	2.5633393	3.621247837	4.6671984	5.7552669	6.8544171	7.8291194	8.8027047	9.8830021	10.888083	12.073955	13.215825	14.003508	15.117273	15.493217	15.656425	15.902026	16.394375
306	Space coolers	Space Cooling - Chillers	1.5194921	3.4477892	5.7521044	8.126039257	10.473141	12.914754	15.381234	17.568456	19.75317	22.199785	24.432734	27.093818	29.656162	31.423713	33.922989	36.274831	38.440991	41.548031	43.456334
347	Space coolers	Space Cooling - Chillers	4.0916526	9.2841255	15.489131	21.88160724	28.201826	34.776545	41.418226	47.307924	49.150501	50.52641	50.294805	50.908048	51.252252	50.273768	50.520305	50.529588	50.294805	51.247436	50.698378
343	Space coolers	Space Cooling - Chillers	0.8817029	2.0006196	3.3377253	4.715228497	6.0771612	7.4939357	8.9251396	10.1943	11.462006	12.881683	14.177377	15.721502	17.208332	18.233974	19.684208	20.173725	20.321133	20.706035	21.347124
345	Space coolers	Space Cooling - Chillers	2.0907017	4.7438868	7.9144434	11.1807911	14.410218	17.769886	21.163369	24.172813	27.178809	30.545159	33.617521	37.278964	40.804547	43.236559	46.675366	49.911315	52.891781	57.166824	59.792498
348	Space coolers	Space Cooling - Chillers	1.9671378	4.4635153	7.4466867	10.51998785	13.55855	16.719468	19.912579	22.74416	25.572496	28.739889	31.63067	35.075715	38.392931	40.681207	43.916775	46.961473	49.765789	53.78817	56.258663
344	Space coolers	Space Cooling - Chillers	0.2238557	0.5079468	0.8474309	1.197171698	1.5429593	1.9026708	2.266046	2.5862791	2.910143	3.2705914	3.5995615	3.9916067	4.3691049	4.6295101	4.9977168	5.3442026	5.663333	6.1210788	6.4022202
301	Space coolers	Space Cooling - Chillers	17.074505	51.571006	102.82141	167.9201369	237.40963	309.16654	381.70906	447.27466	512.58686	584.66605	651.12194	729.03993	804.4212	858.17056	931.82481	1001.4547	1065.9374	1156.5726	1213.8719
346	Space coolers	Space Cooling - Chillers	0.1774888	0.4027292	0.6718916	0.949186132	1.2233463	1.5085462	1.7966507	2.0521356	2.3073276	2.5931118	2.853938	3.1647738	3.464076	3.6705401	3.786335	3.8358002	3.8179773	3.8902934	3.9123353
371	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	Space Cooling - Chillers	10.425971	23.656951	39.467974	55.75669079	71.861289	88.614381	105.5381	120.54568	135.53606	152.32348	167.64482	185.90381	203.48529	215.61332	232.76206	248.89918	263.76226	285.08116	298.17495
342	Space coolers	Space Cooling - Chillers	10.582721	24.012623	40.061357	56.59496692	72.941691	89.946657	107.12482	122.35803	137.57379	154.61359	170.16529	188.69879	206.5446	218.85496	236.26153	252.64126	267.7278	289.36722	302.65787
309	Space coolers	Envelope	1.8370554	5.5485532	11.062613	18.06662088	25.543034	33.2634	41.06829	48.122529	55.149505	62.904545	70.054572	78.437811	86.548124	92.331047	100.25555	107.74706	114.68479	124.43629	130.60115
369	Space coolers	Space Cooling - Chillers	0.5924513	1.344296	2.2427504	3.168349661	4.0834865	5.0354736	5.9971565	6.8499558	7.7017778	8.6557152	9.526344	10.563903	11.562963	12.252133	13.226603	13.555529	13.654578	13.913209	14.343982
304	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	Space Cooling - Chillers	0.0512849	0.1548984	0.308834	0.504364193	0.7130825	0.9286113	1.1464997	1.3434322	1.5396037	1.7561004	1.955707	2.1897411	2.416156	2.5775974	2.798825	2.9570602	3.0479792	3.1590313	3.3091385
354	Space coolers	Space Cooling - Chillers	0.9136989	2.309546	4.1632257	6.554563674	9.5788495	13.196681	17.359734	21.33192	25.404699	29.853211	34.01499	38.780767	43.423428	46.891232	51.439076	55.767215	59.806717	65.319554	68.952842
307	Space coolers	Space Cooling - Chillers	0.0467505	0.1181708	0.2130166	0.335572333	0.4901136	0.6752245	0.8882322	1.091474	1.2998627	1.5274763	1.7404189	1.9842658	2.2218132	2.3992477	2.6319437	2.8533983	3.0600844	3.3421555	3.5280572
355	Space coolers	Space Cooling - Chillers	0.1588557	0.4015378	0.7238186	1.139576765	1.6653792	2.2943756	3.0181643	3.7067687	4.4168622	5.1902807	5.9139478	6.7424261	7.5495994	8.1525119	8.9432003	9.6956908	10.397999	11.356461	11.988145
357	Space coolers	Space Cooling - Chillers	0.0352794	0.0891754	0.1607491	0.253082625	0.3698553	0.5095458	0.6702883	0.823661	0.9809178	1.1526822	1.3133754	1.49739	1.6766509	1.8105486	1.9861484	2.1182472	2.2207713	2.3582189	2.4810716
353	Space coolers	Space Cooling - Chillers	0.8305453	2.0993596	3.7843401	5.958048021	8.7071006	11.995682	15.779865	19.390551	23.092676	27.136339	30.919364	35.25142	39.471563	42.623769	46.757725	50.69197	54.363846	59.374973	62.677604
355	Space coolers	Space Cooling - Chillers	0.1736677	0.4389778	0.7913086	1.245832744	1.8206619	2.5083069	3.2995828	4.0545802	4.8286976	5.6742308	6.4652645	7.3711008	8.2535362	8.9126653	9.7770767	10.599733	11.367525	12.415356	13.105939
352	Space coolers	Ventilation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	Space Cooling - Chillers	0.010649	0.0269173	0.0485215	0.076391999	0.1116394	0.1538044	0.2023239	0.2486188	0.2960862	0.3479326	0.3964372	0.4519813	0.5060905	0.546507	0.5995111	0.6393846	0.6703311	0.7118191	0.7489018
362	Space coolers	HVAC Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	HVAC Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360		HVAC Controls																			
369	Space coolers	Space Cooling - Chillers																			
363	Space coolers	Space Cooling - Chillers																			
368	Space coolers	Space Cooling - Chillers																			
370	Space coolers	Space Cooling - Chillers																			
364	Space coolers	Space Cooling - Chillers																			
371	Space coolers	Space Cooling - Chillers																			
362	Space coolers	HVAC Controls																			
365	Space coolers	Space Cooling - Chillers																			
367	Space coolers	HVAC Controls																			
380		Space Cooling - Unitary and Split AC																			
363	Space coolers	Space Cooling - Chillers	105.64843	239.72056	399.93678	564.9935687	728.18465	897.94704	1069.4384	1221.5132	1373.4137	1543.5239	1698.7781	1883.8	2061.9567	2184.8524	2358.6239	2417.2795	2434.9424	2481.0625	2557.8798
368	Space coolers	Space Cooling - Chillers	77.507575	175.86783	293.40834	414.5000727	534.22305	658.76699	784.57938	896.14705	1007.5869	1055.4579	1071.818	1084.8866	1092.2219	1071.3697	1076.6236	1076.8214	1071.818	1092.1192	1080.4184
302	Space coolers	Envelope	83.390127	189.21558	315.677	445.9591689	574.7687	708.76509	844.12619	964.16145	1084.0592	1218.33	1340.8749	1486.9159	1627.538	1724.5416	1861.7026	1990.7722	2109.6517	2280.1668	2384.895
370	Space coolers	Space Cooling - Chillers	101.30986	229.87619	383.51296	541.7915147	698.28098	861.0719	1025.5208	1171.3505	1317.0131	1480.1375	1629.016	1806.4398	1977.2803	2095.1291	2261.7646	2318.0114	2334.9489	2379.175	2452.8378
364	Space coolers	Space Cooling - Chillers	7.4788863	16.969896	28.311654	39.99607698	51.548426	63.56596	75.70589	86.471315	97.224401	109.26655	120.25705	133.35481	145.96658	154.6664	166.96775	178.54343	189.20519	204.49793	213.89063
306	Space coolers	Space Cooling - Chillers	14.42447	32.729707	54.604467	77.14012354	99.42105	122.59918	146.01336	166.77655	187.51595	210.74156	231.93884	257.20039	281.52461	298.30389	322.0294	344.35533	364.91859	394.41358	412.52901
301	Space coolers	Space Cooling - Chillers	170.05634	513.62991	1024.0668	1672.42821	2364.5202	3079.195	3801.6942	4454.7055	5105.1931	5823.0777	6484.956	7260.993	8011.7652	8547.0907	9280.6624	9974.1524	10616.378	11519.075	12089.757
371	Space coolers	Space Cooling - Chillers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space coolers	Envelope	23.729631	71.671828	142.8981	233.3703401	329.94474	429.67033	530.48774	621.60882	712.37776	812.55124	904.90963	1013.1977	1117.9603	1192.6595	1295.022	1391.7915	1481.4076	1607.3698	1687.0026
391	Space coolers	Space Cooling - Unitary and Split AC	8.3843975	19.024538	31.739506	36.51792512	38.828457	39.11926	39.383774	38.95816	38.628022	38.826014	38.648042	39.119277	39.383774	38.631877	38.821324	38.828457	38.648042	39.380073	38.95816
369	Space coolers	Space Cooling - Chillers	9.1084449	20.66743	34.48042	48.71073666	62.780203	77.416212	92.201285	105.31236	118.40842	133.07441	146.4596	162.41121	177.77092	188.36633	203.348	208.40496	209.92776	213.90399	220.52677
387	Space coolers	Space Cooling - Unitary and Split AC	1.7216838	5.2000902	10.367853	16.93199194	23.938868	31.174375	38.489099	45.100314	51.685979	58.953983	65.65497	73.51172	81.112686	86.532427	93.959251	99.271361	102.3236	106.05173	111.09097
304	Space coolers	Envelope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

Cumulative KW Savings

#		End Use	Measure Name																			
392	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ROB	2.9675782	8.9631295	17.870539	29.18480842	41.262202	53.733676	66.341691	77.737104	89.088478	101.61596	113.16611	126.70839	139.80979	149.15152	161.95275	171.10897	176.36995	182.79594	191.48182
307	Space cooling	Space Cooling - Chillers	Roof Insulation	0.4918049	1.2431295	2.2408857	3.528040317	5.1558836	7.103207	9.3439999	11.482057	13.674259	16.068702	18.308809	20.874023	23.372968	25.239538	27.687447	30.017098	32.191389	35.158713	37.114356
398	Space cooling	Space Cooling - Unitary and Split AC	Room AC-ER	2.2654656	5.7263909	10.322486	16.25167592	23.750224	32.720436	43.042495	52.891309	62.989538	74.019375	84.338274	96.154755	107.66597	116.2642	127.54033	136.02304	142.60661	151.43279	159.32177
321	Space cooling	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space cooling	Space Cooling - Chillers	Window Improvements	0.1795516	0.4538504	0.8181181	1.288041512	1.8823459	2.5932882	3.4113725	4.1919493	4.9922937	5.8664736	6.6843074	7.6208335	8.5331657	9.214626	10.108326	10.780631	11.302418	12.001945	12.627193
362	Space cooling	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	4.0135344	10.144964	18.287478	28.79172348	42.076269	57.968037	76.254758	93.70307	111.59325	131.13388	149.41501	170.34927	190.74273	205.97548	225.95244	240.98054	252.6441	268.28071	282.25695
384	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space cooling	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space cooling	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space cooling	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space cooling	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space cooling	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	8.2819725	20.934245	37.736413	59.41203896	86.824845	119.61768	157.35254	193.35732	230.2739	270.59621	308.31951	351.5176	393.59972	425.03267	466.25535	497.26601	521.33389	553.6002	582.44032
393	Space cooling	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395	Space cooling	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space cooling	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space cooling	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space cooling	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400			Cooking																			
500			Lighting																			
555	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ROB	0.6856595	1.5627196	2.6421084	3.708557758	4.760168	5.8111591	6.9049206	7.9896384	9.0732039	10.075051	11.138582	12.224035	12.826446	12.819141	12.84349	12.793285	12.772383	12.782077	12.843357
564	Lighting	Lighting Controls	Lighting Power Density - Parking Garage-ER	1.0706832	2.4405658	4.1262933	5.791812692	7.4341572	9.0755347	10.783709	12.477759	14.170009	15.734636	17.395598	19.090797	19.719258	20.020199	20.058226	19.979818	19.947174	19.962315	20.058018
554	Lighting	Lighting Controls	Lighting Power Density- Exterior-ROB	7.3178771	16.680715	28.202281	39.58572888	50.810782	62.029226	73.704208	85.282657	96.848806	107.54268	118.84998	130.48128	134.77667	136.83353	137.09343	136.55753	136.33442	136.43791	137.09201
563	Lighting	Lighting Controls	Lighting Power Density- Exterior-ER	11.321693	25.807201	43.63254	61.24419176	78.610786	95.967156	114.02985	131.94319	149.8375	166.3823	183.94575	201.87124	208.51676	211.699	212.1011	211.27199	210.92881	211.08691	212.0989
561	Lighting	Lighting Controls	Lighting Power Density - Interior	3.5204069	8.0245818	13.567255	19.04348398	24.443514	29.840364	35.456841	41.026879	46.591	51.735495	57.196738	62.770553	68.363423	73.862739	79.498989	81.142611	81.982902	82.045132	85.911329
513	Lighting	Lighting	LED Low Bay Lighting	20.803014	47.419372	80.17249	112.5329722	144.44317	176.33459	209.52383	242.43866	275.31851	305.71869	337.99062	370.92776	403.9775	436.47442	469.7805	500.29421	531.77406	564.49946	599.68249
517	Lighting	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	12.219566	27.853855	47.092841	66.10119378	84.845055	103.57788	123.07304	142.40701	161.72044	179.57733	198.53366	217.88075	237.29397	256.38246	275.94625	293.86982	300.16241	303.76969	323.75896
515	Lighting	Lighting	High Intensity Fluorescent Fixture (replacing HID)	70.308496	160.26451	270.96109	380.3306657	488.17842	595.96267	708.13324	819.37635	930.50126	1033.2456	1142.3158	1253.6344	1294.9035	1314.6654	1317.1625	1312.0137	1309.8701	1310.8643	1317.1488
509	Lighting	Lighting	LED Exit Sign	3.8900889	8.8672523	14.991968	21.04326187	27.010355	32.973935	39.180205	45.335158	51.483573	57.168298	63.203032	69.36216	75.542343	81.619149	87.847268	93.553222	95.556462	96.704837	103.0684
528	Lighting	Lighting	LED Downlight	0.3152365	0.7185649	1.2148861	1.705257486	2.1888056	2.6720691	3.1749991	3.6737707	4.1720124	4.6326786	5.1217081	5.6208179	6.121634	6.6140728	7.1187733	7.2659523	7.3411965	7.3467689	7.6929693
501	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	34.591544	78.8496	133.31195	187.1214128	240.18214	293.21164	348.39918	403.13042	457.8035	508.35335	562.01557	582.19237	592.79057	592.91006	594.03623	591.71413	590.74737	591.19578	594.03008
556	Lighting	Lighting Controls	Stairwell Bi-Level Control	6.4553581	14.714648	24.878229	34.9199713	44.821987	54.718174	65.017088	75.230848	85.433756	88.422444	90.19906	90.354935	90.511028	90.529273	90.701224	90.346671	90.19906	90.267526	90.700285
562	Lighting	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	Lighting Controls	Occupancy Sensor	34.997785	79.775605	134.87755	189.3189556	243.00283	296.6551	352.49076	407.86476	463.17992	514.32342	533.67843	544.28904	545.22933	545.33924	546.37505	544.23926	543.35007	543.7625	546.3694
503	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	25.30254	57.675805	97.513163	136.8729607	175.68508	214.47436	254.84217	294.87621	334.86772	371.84322	411.09531	451.15649	491.35463	530.88037	571.3903	583.20366	589.24315	589.69042	617.4783
548	Lighting	Lighting	LED Specialty replacing incandescent	12.320368	28.083629	47.481323	66.6464812	85.544965	92.145044	95.969303	96.169973	96.310999	95.646441	95.638521	95.803797	95.969303	95.988648	96.170969	95.795034	95.638521	95.711116	96.169973
551	Lighting	Lighting Controls	Exterior Bi-level Controls	9.7854064	22.305317	37.711863	52.93371853	67.943769	82.944982	98.556675	114.03928	129.50544	143.80521	158.98541	174.47851	180.22228	182.9727	183.32024	182.60363	182.30529	182.44367	183.31834
524	Lighting	Lighting	LED Screw In Replacing Incandescent	5.5308048	12.607178	21.315104	29.91864138	38.402465	46.881293	55.70517	64.456088	73.197709	75.75835	77.280514	77.414064	77.547801	77.563433	77.710757	77.406984	77.280514	77.339174	77.709953
520	Lighting	Lighting	Interior Induction Lighting-ROB	8.3305257	25.276515	51.071508	82.87053624	116.68497	150.43204	185.2982	219.95765	254.60245	286.93108	320.98892	355.88613	390.50108	424.78717	459.86636	492.20711	517.16937	534.7526	572.47937
553	Lighting	Lighting Controls	Daylight Sensor Controls	81.493472	185.76007	314.06673	440.8352911	565.83992	690.77096	820.7861	949.72623	1078.5294	1197.6187	1324.0403	1453.0679	1500.9023	1523.808	1526.7023	1520.7344	1518.2498	1519.4022	1526.6865
559	Lighting	Lighting Controls	Central Lighting Control	55.049348	125.48208	212.15404	297.7869858	382.22839	466.62009	554.44613	641.54599	728.55331	808.99887	894.39749	981.55641	1013.8688	1029.3418	1031.2969	1027.2656	1025.5872	1026.3657	1031.2862
550	Lighting	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.1	Lighting	Lighting	Interior Induction Lighting-ER	6.7571214	20.502485	41.425523	67.21860015	94.646429	122.01962	150.30053	178.41378	206.51514	232.73779	260.36387	288.50693	316.7463	344.55671	373.01041	399.24289	419.49048	433.75273	464.35396
506	Lighting	Lighting	T5 HP replacing T12	44.441572	101.30222	171.27285	240.4046982	308.5746	376.70438	447.60671	517.9228	588.16418	653.10823	722.05089	747.97309	761.58915	761.74267	763.18952	760.20619	758.96414	759.54024	763.18162
537	Lighting	Lighting	LED Grow Light	47.451829	108.16394	182.87405	256.6885488	329.47595	402.22051	477.92542	553.00438	628.00358	697.34662	770.95912	798.63716	813.17551	813.33943	814.88428	811.69888	810.3727	810.98782	814.87585
505	Lighting	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	3.2787337	8.3256269	15.20911	23.79139383	34.626505	47.227104	61.981279	77.156668	92.80853	107.75551	123.33267	139.15882	155.03922	170.71361	186.71072	198.31402	208.54179	217.49731	232.41506
502	Lighting	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	4.0816326	12.384506	25.023047	40.60333022	57.171084	73.705833	90.78889	107.77067	124.74527	140.58504	157.27254	170.1907	178.93019	183.18985	184.71325	183.9912	183.69059	183.83002	185.1815
536	Lighting	Lighting	LED Tube Lighting	5.6766328	14.414567	26.33228	41.19121019	59.950572	81.766607	107.31124	133.58513	160.68397	186.56242	213.53192	240.93252	268.42702	295.56487	323.26145	349.02693	375.44163	397.06091	427.23906
560	Lighting	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	8.3689257	25.393028	51.306925	83.25253199	117.22283	151.12547	186.15234	220.97156	255.77605	288.25371	322.46954	357.32569	383.91773	401.31511	410.75381	411.54886	410.87646	411.18834	417.83524
558	Lighting	Lighting Controls	Occupancy Sensor & Daylight Sensor	8.2612382	25.066282	50.646731	82.18127718	115.71447	149.18985	183.75702	218.1262	252.48485	284.54459	310.07317	327.67321	338.78612	339.22861	339.87294	338.54437	337.99125	338.2478	339.86942
512	Lighting	Lighting	LED High Bay Lighting	10.282205	26.10941	47.696214	74.61050886	108.58974	148.10558	194.37511	241.96557	291.05027	337.92445	386.77488	436.40615	486.20754	535.3629	585.5303	632.19985	669.78089	703.40509	756.00601
508	Lighting	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	Lighting Controls	Garage Bi-level Controls	1.0821481	3.2834581	6.6342674	10.76500996	15.157557	19.541353	24.070521	28.572837	33.07325	37.272789	40.616803	42.922251	44.11596	44.435904	44.520306	44.346275	44.273821	44.307427	44.519845
542	Lighting	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	7.5927025	19.280007	35.22038	55.09473876	80.186066	109.36581	143.53267	178.67496	214.92064	249.53401	285.6067	322.25599	359.03089	395.32875	432.37393	466.83619	502.16681	538.66873	577.54513
545	Lighting	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
549	Lighting	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.2	Lighting	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600			Refrigeration																			
614	Process cooli	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process cooli	Refrigeration	H.E. Evaporative Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process cooli	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process cooli	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process cooli	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process cooli	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process cooli	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process cooli	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process cooli	Refrigeration	Zero-Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process cooli	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process cooli	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process cooli	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process cooli	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process cooli	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process cooli	Refrigeration	Reach-in Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process cooli	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process cooli	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process cooli	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process cooli	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process cooli	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process cooli	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process cooli	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process cooli	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700			Compressed Air																			
800			Space Heating																			
363	Space Heatin	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space Heatin	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
302	Space Heatin	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space Heatin	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space Heatin	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space Heatin	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	Space Heatin	Space Heating	VFD Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space Heatin	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space Heatin	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heatin	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
369	Space Heatin	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Space Heatin	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heatin	Space Heating	Ground Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Space Heatin	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Energy/Demand/# Measures/Participants)

Cumulative KW Savings

#		End Use	Measure Name																			
805	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Space Heating	Ventilation	Destratification Fan (HVLS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
321	Space Heating	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space Heating	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	Space Heating	Ground Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Heating	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900			Other																			
913	Other	Other	Engine Block Heater Timer	0.3599736	0.8177862	1.3798696	1.94002702	2.4994543	2.6918133	2.7991005	2.7990486	2.7989241	2.7920013	2.7986005	2.799173	2.7991005	2.7909554	2.7994618	2.798941	2.7986005	2.7911072	2.7990486
911	Other	Other	Parking Garage Exhaust Fan CO Control	0.1696568	0.513045	1.0345361	1.681444094	2.3763883	3.0631273	3.7671167	4.4623305	5.1573849	5.8381618	6.5471332	7.2437873	7.9388961	8.609068	9.3306935	9.854572	10.20374	10.351134	10.9916
903	Other	Other	NEMA Premium Transformer, three-phase-ROB	0.0128142	0.0324296	0.059123	0.092637742	0.1353309	0.1845448	0.2418155	0.3003875	0.3607785	0.4207497	0.4827516	0.5438702	0.6048744	0.6639551	0.7270049	0.7878845	0.848796	0.9073674	0.9709663
909	Other	Other	High Efficiency Transformer, three-phase-ROB	0.0135092	0.0341885	0.0623298	0.097662378	0.1426712	0.1945544	0.2549315	0.3166804	0.380347	0.443571	0.5089359	0.5733696	0.6376826	0.6999677	0.7664374	0.830619	0.8948344	0.9565827	1.0236311
901	Other	Other	High Efficiency Transformer, single-phase-ROB	0.0136104	0.0344447	0.0627968	0.098394052	0.1437401	0.196012	0.2568414	0.319053	0.3831965	0.4468942	0.5127487	0.5776652	0.64246	0.7052118	0.7721794	0.8368419	0.9015384	0.9637493	1.0313
902	Other	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000			Machine Drive																			
1022	Machine Drive	Machine Drive	Air-Entraining Air Nozzles	22.605003	51.353922	86.650665	121.8264627	156.95641	191.57629	227.27458	262.42433	297.56506	331.89452	367.82732	403.0581	438.20227	471.97946	508.57714	521.03201	527.22502	525.81337	549.52322
1006	Machine Drive	Machine Drive	Advanced Lubricants	270.89279	345.30327	421.2577	421.3386251	421.26025	420.09206	421.28424	421.27643	421.2577	420.21576	421.20899	421.29516	421.28424	420.05835	421.33863	421.26025	421.20899	420.0812	421.27643
1010	Machine Drive	Machine Drive	Compressed Air System Management	410.28238	522.98125	638.01851	638.1410717	638.02236	636.25307	638.05871	638.04687	638.01851	636.44044	637.94473	638.07524	638.05871	636.20202	638.14107	638.02236	637.94473	636.23663	638.04687
1018	Machine Drive	Machine Drive	Storage Tank Addition (comp air)	11.576852	26.300229	44.376987	62.39180437	80.383141	98.113251	116.39566	134.39713	152.39399	169.97537	188.37788	206.42085	224.41947	241.71801	260.46102	278.41552	296.38239	313.54138	332.43712
1023	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	14.952407	33.968798	57.31634	80.58388288	103.8211	126.72092	150.33407	173.58438	196.82873	219.53645	243.30472	266.60863	289.85525	312.19767	336.40573	344.64419	348.74065	347.80689	363.49012
1029	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	99.088014	225.10761	379.82929	534.0208239	688.01138	839.76605	996.24791	1150.3253	1304.3631	1454.8447	1612.3545	1766.7871	1920.8399	2068.9008	2229.325	2283.9204	2311.0672	2304.8793	2408.8104
1019	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - ROB	12.192566	27.699004	46.737173	65.71010656	84.658311	103.3314	122.58615	141.54503	160.49905	179.01549	198.39674	217.39932	236.3552	254.57376	274.31362	281.03146	284.37181	283.61041	296.3989
1030	Machine Drive	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	115.92915	263.36721	444.3856	624.7837321	804.94673	982.49384	1165.5716	1345.8361	1526.0544	1702.1121	1886.3925	2067.0726	2247.3085	2420.5339	2608.2242	2672.0986	2703.8593	2696.6197	2818.2151
1016	Machine Drive	Machine Drive	Elec motors replacing pneumatic (comp air)	40.147405	91.206656	153.89511	216.368754	278.76097	340.24728	403.6489	466.07628	528.48765	589.45817	653.27629	715.84758	778.26505	838.25472	903.25369	925.37405	936.37308	933.86594	975.9756
1008	Machine Drive	Machine Drive	Pump System Efficiency Improvements	94.054236	213.6719	360.53355	506.8919886	653.05966	797.10503	945.63744	1091.8875	1238.1	1380.937	1530.4452	1677.0324	1823.2592	1963.7984	2116.0729	2167.8948	2193.6625	2187.7889	2286.4402
1015	Machine Drive	Machine Drive	Compressed Air Audits and Leak Repair	683.15635	870.8099	1062.3571	1062.561169	1062.3635	1059.4175	1062.424	1062.4043	1062.3571	1059.7295	1062.2342	1062.4516	1062.424	1059.3325	1062.5612	1062.3635	1062.2342	1059.3901	1062.4043
1025	Machine Drive	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	14.923247	33.902551	57.20456	80.42672535	103.61862	126.47378	150.04089	173.24585	196.44487	219.1083	242.83022	266.08868	289.28997	311.58881	335.74966	343.97205	348.06052	347.12858	362.78123
1007	Machine Drive	Machine Drive	Motor System Optimization (Including ASD)	297.26452	675.32393	1139.4897	1602.065068	2064.0375	2519.3022	2988.7486	3450.9813	3913.0956	4364.5412	4837.0714	5300.3698	5762.5292	6206.7123	6687.9859	6851.7723	6933.2128	6914.649	7226.4428
1003	Machine Drive	Machine Drive	Electric Supply System Improvements	67.461342	153.25831	258.5963	363.5733497	468.41357	571.73156	678.26792	783.16722	888.03962	990.4909	1097.7271	1202.8682	1307.7509	1408.554	1517.7745	1554.9442	1573.4263	1569.2135	1639.9721
1014	Machine Drive	Machine Drive	High Efficiency Pumps - ROB	34.362775	78.065164	131.72116	185.1933087	238.59576	291.22283	345.48924	398.92178	452.34062	504.52622	559.14912	612.70484	666.1289	717.47497	773.10857	792.04173	801.45597	799.31007	835.35237
1028	Machine Drive	Machine Drive	Synchronous belt drives	205.52014	466.89954	787.81042	902.0803604	958.80144	956.1426	958.85606	958.83827	958.79564	956.42417	958.68477	958.88091	958.85606	956.06588	958.97983	958.80144	958.68477	956.11789	958.83827
1024	Machine Drive	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	12.702743	28.858023	48.692812	68.45963751	88.200698	107.65513	127.71556	147.46775	167.21487	186.5061	206.69832	226.49604	246.24509	265.22598	285.79182	292.79076	296.27088	295.47762	308.80122
1001	Machine Drive	Machine Drive	Sensors & Controls	25.304619	57.486896	96.998972	136.3756614	175.70103	214.4554	254.41699	293.76451	333.10195	371.53122	411.75532	451.19356	490.53484	528.34589	569.31427	583.25657	590.18919	588.60895	615.15037
1013	Machine Drive	Machine Drive	VFD for Process Pumps	151.19453	343.48291	579.56668	814.8415144	1049.8097	1281.3662	1520.1358	1755.2364	1990.2767	2219.8907	2460.2288	2695.8714	2930.9346	3156.8548	3401.64	3484.9449	3526.3671	3516.9253	3675.5096
1012	Machine Drive	Machine Drive	VFD for Process Fans	42.63588	96.859959	163.43406	229.7800374	296.03954	361.33699	428.66846	494.9653	561.24515	625.99482	693.76861	760.21829	826.50461	890.21265	959.24047	982.73193	994.41272	991.75018	1036.4699
1005	Machine Drive	Machine Drive	Industrial Motor Management	33.965401	77.162412	130.19793	183.0517186	235.83662	253.9867	264.1098	264.1049	264.09316	263.43995	264.06262	264.11665	264.1098	263.34127	264.14389	264.09476	264.06262	263.35559	264.1049
1027	Machine Drive	Machine Drive	Receiver Capacity Addition	14.343704	32.585948	54.983026	77.30336046	99.594602	121.56218	144.21406	166.51787	188.81595	210.59925	219.05916	223.07471	223.06893	222.41982	223.09772	223.05622	223.02908	222.43192	223.06479
1009	Machine Drive	Machine Drive	Fan System Improvements	7.4836138	17.001233	28.686575	40.33187722	51.962001	63.42326	75.241539	86.878217	98.51191	109.87702	121.77294	133.43644	145.07127	156.25355	168.36958	172.49289	174.54315	174.07581	181.9252
1021	Machine Drive	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	4.1765565	12.62998	25.467883	41.39325995	58.501176	75.4071	92.737691	109.85224	126.96287	143.72202	161.17526	178.32527	195.43724	211.93532	229.70007	242.59674	251.19245	254.82094	270.58775
1026	Machine Drive	Machine Drive	High Efficiency Pumps - Early Replacement	8.7503672	26.461263	53.35815	86.72365066	122.56671	157.98657	194.29615	230.15311	266.00185	301.1142	337.68075	373.61199	409.46354	444.02892	481.24812	508.26814	526.27713	533.87924	566.91252
1017	Machine Drive	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	7.6890979	17.468051	29.474247	41.4393044	53.388766	57.497587	59.789258	59.788149	59.785491	59.637618	59.778578	59.790808	59.789258	59.615277	59.796976	59.785852	59.778578	59.61852	59.788149
1031	Machine Drive	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	6.9713615	17.642817	32.164993	50.39818312	73.624754	100.39884	131.55614	163.42136	196.27617	228.9026	262.63381	295.8845	329.07293	361.21486	395.51618	421.66603	444.08446	461.56456	492.26578
1011	Machine Drive	Machine Drive	Compressed Air - Advanced Compressor Controls	9.5037626	21.590596	36.430314	51.21918313	65.988776	80.543921	95.552462	110.33038	125.10451	139.53755	154.64469	169.45667	184.23224	198.4331	213.81976	219.05614	221.65984	221.06635	231.03462
1002	Machine Drive	Machine Drive	Energy Information System	7.1128048	16.158831	27.265171	38.3334544	49.387311	60.280671	71.513361	82.573448	93.630698	104.43268	115.73916	126.82474	137.88307	148.51127	160.02696	163.94596	165.89463	165.45045	172.9109
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1040			Process Cooling & Refrigeration																			
1048	Process Cooli	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	7.6708595	17.430295	29.40753	41.33825245	53.269282	65.020904	77.126138	89.056814	100.98773	112.61765	124.84843	136.77512	148.70492	160.20562	172.5708	176.83254	178.9514	178.46543	186.48724
1049	Process Cooli	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	9.2140616	20.936873	35.323655	49.65456664	63.985848	78.101628	92.642159	106.97302	121.30416	135.27375	149.96509	164.29116	178.62096	192.43534	207.28811	212.40722	214.95235	214.3686	224.00422
1046	Process Cooli	Process Cooling & Refrig	Floating Head Pressure Control	13.572313	30.840014	52.031744	73.14117666	94.251154	115.0437	136.4619	157.57125	178.68102	199.25824	220.89857	242.00088	263.10867	283.45726	305.33539	312.87583	316.62481	315.76496	329.95821
1043	Process Cooli	Process Cooling & Refrig	Electric Supply System Improvements	13.20586	30.007334	50.626887	71.16636489	91.706373	111.93752	132.77743	153.31683	173.85663	193.87827	214.93431	235.46685	256.00474	275.80391	297.09133	304.42819	308.07594	307.2393	321.04934
1041	Process Cooli	Process Cooling & Refrig	Sensors & Controls	11.019719	25.039823	42.245948	59.38525418	76.525002	93.407019	110.79702	127.93626	145.07584	161.78303	179.35339	196.48691	213.62489	230.14644	247.90987	254.03216	257.07605	256.37791	267.90179
1044	Process Cooli	Process Cooling & Refrig	Improved Refrigeration	41.839232	95.070202	160.39774	225.4715706	290.54708	354.64405	420.66973	485.74331	550.81819	614.25137	680.96182	746.01368	811.08247	873.81084	941.25433	964.49919	976.05611	973.40546	1017.1589
1047	Process Cooli	Process Cooling & Refrig	Refrigerant charging correction	57.110552	129.77083	161.83123	177.6442677	177.64693	177.15979	177.6378	177.63955	177.64131	177.16918	177.64221	177.6378	177.6378	177.16328	177.64427	177.64693	177.64221	177.15979	177.63955
1042	Process Cooli	Process Cooling & Refrig	Energy Information System	3.1156979	7.0797195	11.944552	16.79049207	21.636557	26.409752	31.326573	36.172495	41.018512	45.742276	50.710092	55.554395	60.39996	65.071237	70.093642	71.824647	72.685272	72.487882	75.746125
1045	Process Cooli	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050			Process Heating																			
1053	Process Heati	Process Heating	Electric Supply System Improvements	25.293865	57.462464	96.957748	136.3177024	175.62635	214.36426	254.30886	293.63966	332.96038	371.37332	411.58033	451.0018	490.32636	528.12135	569.07231	583.00869	589.93836	588.35879	614.88893
1051	Process Heati	Process Heating	Sensors & Controls	21.512395	48.871742	82.462423	115.938007	149.36996	182.31649	216.28931	249.74011	283.18232	315.85247	350.04847	383.57637	417.02186	449.16644	483.99517	495.84804	501.74171	500.3983	522.96214
1054	Process Heati	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	3.4927202	10.562047	21.297973	34.61585528	48.922657	63.060539	77.553555	91.865908	106.17498	120.19012	131.29369	138.53502	142.13858	142.72404	143.15904	143.13241	143.11499	142.7318	143.13791
1052	Process Heati	Process Heating	Energy Information System	7.9400801	18.038231	30.436325	42.79193775	55.131446	67.291789	79.830929	92.177392	104.52069	116.57902	129.20053	141.57546	153.91996	165.78431	178.63936	183.01417	185.18949	184.69364	193.0218
1060			Industrial Other																			
1063	Industrial Othe	Other	Barrel Insulation - Inj. Molding (plastics)	0.2958298	0.6720645	1.13399	1.594332735	2.0540754	2.5071429	2.9743235	3.4343253	3.8942091	4.3434758	4.5179561	4.6007742	4.600655	4.5872675	4.6012489	4.6003929	4.5998332	4.5875171	4.6005697
1066	Industrial Othe	Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	1.3409331	3.0463245	5.140134	7.226769026	9.3106843	11.364342	13.481972	15.567061	17.651616	19.688046	21.819587	23.909483	25.994242	27.997912	30.168893	32.24854	34.329622	36.317128	38.505799
1062	Industrial Othe	Other	3 Phase High Eff Battery Charger - ROB	0.1529223	0.347408	0.5861896	0.824153008	1.0618062	1.2960089	1.5375069	1.7752941	2.0130203	2.2452582	2.4883427	2.7266781	2.9644275	3.1929294	3.4405118	3.6776783	3.9150084	4.1416669	4.3912666
1069	Industrial Othe	Other	Hybrid Injection Molding Machine - ROB	0.4372563	0.9933564	1.6761134	2.356530826	3.0360614	3.7057255	4.3962498	5.0761633	5.7559025	6.4199489	7.1150094	7.7964903	8.4762959	9.1296597	9.8375811	10.51572	11.194327	11.84242	12.556109
1061	Industrial Othe	Other	High Efficiency Welders - ROB	0.0124166	0.0375479	0.075714	0.123058904	0.1739194	0.2241794	0.2757019	0.3265821	0.3774506	0.4272743	0.4791614	0.530147	0.5810195	0.630067	0.6828802	0.7336366	0.7844245	0.8330652	0.8863208
1076	Industrial Othe	Other	On-Demand ventilation control for Dust and Fume Collection Systems	0.3797861	0.8627961	1.4558158	2.046803588	2.6370211	3.2186688	3.818435	4.4089851	4.9993837	5.5761522	6.1798583	6.7717698	7.3622262	7.929716	8.5445928	8.7538468	8.8578954	8.8341783	9.232527
1064	Industrial Othe	Other	Pellet Dryer Insulation (plastics)	0.2174729	0.4940537	0.8336283	1.172039312	1.5100092	1.843072	2.1865097	2.5246701	2.8627438	3.1930126	3.321278	3.3821599	3.3820723	3.3722308	3.3825088	3.3818796	3.3814681	3.3724142	3.3820095
1075	Industrial Othe	Other	Industrial Air Curtain	0.3785996	1.1448919	2.3086318	3.752247288	5.3030585	6.8355594	8.4065558	9.9579687	11.509026	13.028222	14.610336	16.164963	17.716141	19.211672	20.822024	21.991092	22.770281	23.0992	24.528441
1067	Industrial Othe	Other	Lab Fume Hood Ventilation Reduction	0.0393705	0.1190572	0.2400743	0.390195686	0.5514643	0.7108289	0.8741966	1.0355278	1.196822	1.354803	1.5193268	1.6809923	1.8422991	1.9978191	2.1652795	2.2868506	2.3678785	2.4020826	2.5507093
1071	Industrial Othe	Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	0.0427816	0.1082699	0.1973892	0.309282089	0.4518182	0.6161247	0.8073299	1.0028794	1.2045018	1.4047228	1.6117234	1.8157753	2.0194451	2.2166927	2.427192	2.6304458	2.8338062	3.0293537	3.241686
1070	Industrial Othe	Other	3 Phase High Eff Battery Charger - Early Replacement	0.0404473	0.1223134	0.2466405	0.400867791	0.5665472	0.7302705	0.8981064	1.0638502	1.2295559	1.3918578	1.5608814	1.7269685	1.8926872	2.0524608	2.2245012	2.3493975	2.4326415	2.4677812	2.6204728
1065	Industrial Othe	Other	Injection Molding Machine - efficient (plastics)	0.0502375	0.127139	0.2317897	0.363183084	0.5305601	0.7235015	0.9480295	1.177659	1.4144197	1.6495347	1.892611	2.1322246	2.3713895	2.603013	2.8501977	3.088874	3.3276756	3.5573028	3.8066399
1072	Industrial Othe	Other	High Efficiency Welders - Early Replacement	0.0078081	0.0197603	0.0360255	0.056447078	0.0824614	0.1124489	0.1473458	0.1830355	0.2198336	0.256376	0.2941557	0.3313972	0.368569	0.4045686	0.4429869	0.4800827	0.517198	0.5528874	0.5916402
1073	Industrial Othe	Other	High Speed Turbo Blower for Wastewater	0.0110822	0.0280462	0.0511317	0.080116392	0.1170389	0.1596009	0.2091306	0.2597858	0.312014	0.3638792	0.4175006	0.4703582	0.5231168	0.5742118	0.6287395	0.6813903	0.7340688	0.7847234	0.8397259
1074	Industrial Othe	Other	Hybrid Injection Molding Machine - Early Replacement	0.127059	0.3215553	0.5862343	0.918549736	1.3418737	1.8298543	2.3977225	2.9784933	3.5773	4.1719446	4.7867245	5.3927466	5.9976339	6.583448	7.2086186	7.8122703	8.4162388	8.9970036	9.6276181
1068	Industrial Othe	Other	Process Fan Ventilation Reduction	0.1780206	0.4505267	0.8213647	1.286967137	1.8800804	2.5637832	3.3594153	4.1731252	5.0121048	5.845253	6.7066124	7.5557015	8.4032007	9.2239765	10.099894	10.767656	11.340133	11.786505	12.570491
1080			Agriculture																			
1093	Agricultural	Agriculture	Fan Thermostat Controller	8.8349233	20.071131	33.866484	47.61456805	61.344732	74.875541	88.827836	102.56574	116.30012	129.71742	143.76137	157.53094	171.26666	184.46812	198.77193	203.63978	206.06025	205.50852	214.77527
1081	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	1.5250362	3.464569	5.8458476	8.218966856	10.588993	12.924607	15.332976	17.704338	20.075091	22.391113	24.815303	27.192131	29.563117	31.841879	34.310925	35.151188	35.568996	35.47376	37.073334
1086	Agricultural	Agriculture	Milk Pre-Cooler Heat Exchanger	8.4675766	19.236594	32.458352	45.63480548	58.794084	71.762296	85.13447	98.301165	111.46448	124.32391	137.78393	150.98097	164.14558	176.79813	190.5072	195.17266	197.49249	196.9637	205.84514
1092	Agricultural	Agriculture	Low Pressure Sprinkler Nozzles	3.1838088	7.2329595	12.20434	17.15868686	22.106576	26.982623	32.010561	36.961238	41.910646	46.745789	51.806756	56.768846	61.718738	66.476097	71.630709	73.384919	74.257175	74.058351	77.397773
1088	Agricultural	Agriculture	VFD for Process Fans - Agriculture	1.28767	3.8939365	7.8519777	12.76191482	18.036439	23.248688	28.591865	33.868436	39.143797	44.310794	49.691784	54.979286	60.25506	65.341567	70.818599	74.794761	77.444893	78.563591	83.424639
1091	Agricultural	Agriculture	Grain Storage Temperature and Moisture Management Controller	0.7627085	1.9302294	3.5190422	5.513861921	8.0549873	10.984233	14.393027	17.879272	21.473784	25.043311	28.733706	32.371529	36.002542	39.519061	43.271829	46.132779	48.58549	50.497916	53.856813
1089	Agricultural	Agriculture	VFD for Process Pumps - Agriculture	1.624443	4.1110694	7.4949778	11.74361395	17.155791	23.394599	30.654766	38.079893	45.735608	53.33811	61.198041	68.946004	76.679459	84.169064	92.16184	98.255189	103.47906	107.55221	114.70611
1094	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	0.2168206	0.5487202	1.0003834	1.567465216	2.2898492	3.1225669	4.0916093	5.0826694	6.104507	7.1192421	8.1683373	9.2024877	10.234702	11.234368	12.301194	13.114497	13.811747	14.355406	15.310264
1087	Agricultural	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	1.0623411	3.2125379	6.4779628	10.52871178	14.880249	19.180408	23.588585	27.94181	32.294038	36.556864	39.934112	42.136626	43.232677	43.41075	43.543059	43.534959	43.529662	43.413111	43.536632
1095	Agricultural	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	1.9434742	4.4151742	7.4498259	10.47407932	13.494391	16.470849	19.540024	22.562038	25.583276	28.534765	31.624103	34.653083	37.674617	40.578625	43.725125	44.795938	45.328384	45.207017	47.245481
1083	Agricultural	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	Agriculture	VFD for Process Pumps - Irrigation	2.031917	5.1422867	9.3750119	14.68937254	21.459135	29.262881	38.344183	47.631822	57.20789	66.717398	74.517406	81.083165	86.53807	90.637226	93.816513	95.588935	96.254471	96.382666	98.838692
1082	Agricultural	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Totals (*1000)		4.36	8.76	14.17	19.22	24.24	29.18	34.28	39.13	43.99	48.77	53.50	58.29	62.70	66.34	70.60	72.95	74.69	76.47	79.47

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Year by Year Energy Savings (kWh)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
102	Computers &	2	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794	118,794
104	Computers &	1	Office Equipment	PC Network Energy Management Controls replacing no central control	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102	47,102
107	Computers &	2	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860	5,860
109	Computers &	1	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948	381,948
111	Computers &	1	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294	2,294
101	Computers &	2	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	1	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	1	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	2	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	1	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150				Water Heating																			
165	Water Heating	1	Water Heating	Low Flow Faucet Aerator	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747	104,747
166	Water Heating	1	Water Heating	Tank Insulation (electric)	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613	9,613
171	Water Heating	1	Water Heating	Process Cooling Condenser Heat Recovery	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006	10,006
151	Water Heating	2	Water Heating	Heat Pump Water Heater-ROB	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738	9,738
153	Water Heating	2	Water Heating	Efficient Hot Water Pump-ROB	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296	5,296
164	Water Heating	1	Water Heating	HVAC Condenser Heater Recovery Water Heating	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221	4,221
176	Water Heating	1	Water Heating	Heat Pump Water Heater-Early Replacement	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474	2,474
178	Water Heating	1	Water Heating	Efficient Hot Water Pump-Early Replacement	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682	4,682
167	Water Heating	1	Water Heating	Hot Water (DHW) Pipe Insulation	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,300
166	Water Heating	1	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	2	Water Heating	Heat Pump Storage Water Heating-ROB	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932	7,932
170	Water Heating	1	Water Heating	ECM Circulator Pump	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462	5,462
152	Water Heating	2	Water Heating	Electric Tankless Water Heater-ROB	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484
169	Water Heating	1	Water Heating	Drain Water Heat Recovery Water Heater	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
179	Water Heating	1	Water Heating	Heat Pump Storage Water Heating-Early Replacement	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423	1,423
177	Water Heating	1	Water Heating	Electric Tankless Water Heater-Early Replacement	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300				Building Envelope																			
302	Other	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Other	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Other	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Other	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Other	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Other	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Other	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Other	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Other	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Other	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320				Ventilation																			
322	Ventilation	1	Ventilation	Variable Speed Drive Control, 15 HP	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730
323	Ventilation	1	Ventilation	Variable Speed Drive Control, 5 HP	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730
324	Ventilation	1	Ventilation	Variable Speed Drive Control, 40 HP	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730	277,730
333	Ventilation	1	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	1	Ventilation	Destratification Fan (HVLS)	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920	157,920
321	Ventilation	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	1	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	1	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340				Space Cooling - Chillers																			
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680	38,680
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065	17,065
302	Space coolers	2	Envelope	Energy Efficient Windows-ROB	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091	37,091
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656
359	Space coolers	1	Space Cooling - Chillers	Chiller Tune Up	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244	3,244
351	Space coolers	1	Space Cooling - Chillers	Efficient Chilled Water Pump	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575
306	Space coolers	1	Space Cooling - Chillers	Wall Insulation	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254	5,254
347	Space coolers	1	Space Cooling - Chillers	Chilled Hot Water Reset	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558	15,558
343	Space coolers	1	Space Cooling - Chillers	Water Side Economizer	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353	3,353
348	Space coolers	2	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949	7,949
349	Space coolers	2	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480	7,480
344	Space coolers	1	Space Cooling - Chillers	VAV System Conversion	851	851	851	851	851	851	851	851	851	851	851	851	851	851	851	851	851	851	851
301	Space coolers	1	Space Cooling - Chillers	Integrated Building Design	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585	155,585
346	Space coolers	1	Space Cooling - Chillers	Motor Belt Replacement	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	2	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643	39,643
342	Space coolers	2	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239	40,239
309	Space coolers	1	Envelope	Energy Efficient Windows-Early Replacement	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739	16,739
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239
304	Space coolers	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	2	Space Cooling - Chillers	High Efficiency Pumps-ROB	514	514	514	514	514	514	514	514	514	514	514	514	514	514	514	514	514	514	514
354	Space coolers	1	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643
307	Space coolers	1	Space Cooling - Chillers	Roof Insulation	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703	703
356	Space coolers	1	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720
357	Space coolers	1	Space Cooling - Chillers	High Efficiency Pumps-ER	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604
353	Space coolers	1	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220	14,220
355	Space coolers	1	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973	2,973
321	Space coolers	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	1	Space Cooling - Chillers	Window Improvements	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
366	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Year by Year Energy Savings (kWh)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name																			
100				Computers & Office Equipment	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
360				HVAC Controls																			
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380				Space Cooling - Unitary and Split AC																			
360	Space Cooling	1	Space Cooling - Chillers	Commercial EMS	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309	365,309
368	Space Cooling	1	Space Cooling - Chillers	Setback with Electric Heat	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166	161,166
302	Space Cooling	2	Envelope	Energy Efficient Windows-ROB	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345	288,345
370	Space Cooling	1	Space Cooling - Chillers	Web Enabled EMS	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307	350,307
364	Space Cooling	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643	15,643
306	Space Cooling	1	Space Cooling - Chillers	Wall Insulation	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877	49,877
301	Space Cooling	1	Space Cooling - Chillers	Integrated Building Design	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571	1,549,571
371	Space Cooling	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Cooling	1	Envelope	Energy Efficient Windows-Early Replacement	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227	216,227
391	Space Cooling	1	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991	28,991
368	Space Cooling	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052	19,052
387	Space Cooling	2	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688	15,688
304	Space Cooling	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
392	Space Cooling	2	Space Cooling - Unitary and Split AC	Room AC-ROB	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041	27,041
307	Space Cooling	1	Space Cooling - Chillers	Roof Insulation	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399	7,399
398	Space Cooling	1	Space Cooling - Unitary and Split AC	Room AC-ER	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084	34,084
321	Space Cooling	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Space Cooling - Chillers	Window Improvements	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921
362	Space Cooling	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space Cooling	2	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385	60,385
384	Space Cooling	2	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space Cooling	2	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space Cooling	1	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space Cooling	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Cooling	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Cooling	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
388	Space Cooling	2	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604	124,604
393	Space Cooling	1	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
399	Space Cooling	1	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space Cooling	1	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space Cooling	1	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Cooling	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Year by Year Energy Savings (kWh)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name																			
100				Computers & Office Equipment	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
700				Compressed Air																			
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800				Space Heating																			
363	Space Heating	1	Space Cooling - Chillers	Commercial EMS	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955	85,955
368	Space Heating	1	Space Cooling - Chillers	Setback with Electric Heat	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921	37,921
302	Space Heating	2	Envelope	Energy Efficient Windows-ROB	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846	67,846
370	Space Heating	1	Space Cooling - Chillers	Web Enabled EMS	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425	82,425
364	Space Heating	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681	3,681
306	Space Heating	1	Space Cooling - Chillers	Wall Insulation	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736	11,736
806	Space Heating	1	Space Heating	VFD Pump	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750	19,750
301	Space Heating	1	Space Cooling - Chillers	Integrated Building Design	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953	359,953
371	Space Heating	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	1	Envelope	Energy Efficient Windows-Early Replacement	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440	43,440
368	Space Heating	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462	4,462
304	Space Heating	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	2	Space Heating	Ground Source Heat Pump - Heating-ROB	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241	110,241
307	Space Heating	1	Space Cooling - Chillers	Roof Insulation	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741
805	Space Heating	2	Space Heating	Water Loop Heat Pump (WLHP) - Heating	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391	3,391
332	Space Heating	1	Ventilation	Destratification Fan (HVLS)	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055	98,055
321	Space Heating	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	1	Space Cooling - Chillers	Window Improvements	329	329	329	329	329	329	329	329	329	329	329	329	329	329	329	329	329	329	329
362	Space Heating	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	1	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	2	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	1	Space Heating	Ground Source Heat Pump - Heating-ER	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942	40,942
366	Space Heating	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	2	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	1	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	1	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	1	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900				Other																			
913	Other	1	Other	Engine Block Heater Timer	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084	9,084
911	Other	1	Other	Parking Garage Exhaust Fan CO Control	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282	11,282
903	Other	2	Other	NEMA Premium Transformer, three-phase-ROB	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
909	Other	2	Other	High Efficiency Transformer, three-phase-ROB	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349	1,349
901	Other	2	Other	High Efficiency Transformer, single-phase-ROB	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359	1,359
902	Other	2	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	1	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	1	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	1	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	1	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	1	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000				Machine Drive																			
1022	Machine Drive	1	Machine Drive	Air-Entraining Air Nozzles	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542	312,542
1006	Machine Drive	1	Machine Drive	Advanced Lubricants	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264
1016	Machine Drive	1	Machine Drive	Compressed Air System Management	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654
1018	Machine Drive	1	Machine Drive	Storage Tank Addition (comp air)	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064	160,064
1023	Machine Drive	2	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879	208,879
1029	Machine Drive	2	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220	1,384,220
1019	Machine Drive	2	Machine Drive	High Efficiency Dryers (comp air) - ROB	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577	168,577
1030	Machine Drive	1	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484	1,619,484
1016	Machine Drive	1	Machine Drive	Elec motors replacing pneumatic (comp air)	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087	555,087
1008	Machine Drive	1	Machine Drive	Pump System Efficiency Improvements	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670
1015	Machine Drive	1	Machine Drive	Compressed Air Audits and Leak Repair	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422
1025	Machine Drive	1	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472	208,472
1007	Machine Drive	1	Machine Drive	Motor System Optimization (Including ASD)	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462
1003	Machine Drive	1	Machine Drive	Electric Supply System Improvements	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008
1014	Machine Drive	2	Machine Drive	High Efficiency Pumps - ROB	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034	480,034
1028	Machine Drive	1	Machine Drive	Synchronous belt drives	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035	2,871,035
1024	Machine Drive	1	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452	177,452
1001	Machine Drive	1	Machine Drive	Sensors & Controls	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093
1013	Machine Drive	1	Machine Drive	VFD for Process Pumps	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739	2,065,739
1012	Machine Drive	1	Machine Drive	VFD for Process Fans	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525	582,525
1009	Machine Drive	1	Machine Drive	Industrial Motor Management	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483
1027	Machine Drive	1	Machine Drive	Receiver Capacity Addition	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319	198,319
1009	Machine Drive	1	Machine Drive	Fan System Improvements	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058
1021	Machine Drive	1	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306	191,306
1026	Machine Drive	1	Machine Drive	High Efficiency Pumps - Early Replacement	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076	488,076
1017	Machine Drive	1	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311	106,311
1031	Machine Drive	1	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775	463,775
1011	Machine Drive	1	Machine Drive	Compressed Air - Advanced Compressor Controls	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401
1002	Machine Drive	1	Machine Drive	Energy Information System	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	Year by Year Energy Savings (kWh)																		
100				Computers & Office Equipment	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1040		1		Process Cooling & Refrigeration																			
1048	Process Cool	2	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322	106,322
1049	Process Cool	1	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711	127,711
1046	Process Cool	1	Process Cooling & Refrig	Floating Head Pressure Control	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119	188,119
1043	Process Cool	1	Process Cooling & Refrig	Electric Supply System Improvements	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040
1041	Process Cool	1	Process Cooling & Refrig	Sensors & Controls	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739
1044	Process Cool	1	Process Cooling & Refrig	Improved Refrigeration	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912
1047	Process Cool	1	Process Cooling & Refrig	Refrigerant charging correction	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580	791,580
1042	Process Cool	1	Process Cooling & Refrig	Energy Information System	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185
1045	Process Cool	1	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050		1		Process Heating																			
1053	Process Heat	1	Process Heating	Electric Supply System Improvements	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947
1051	Process Heat	1	Process Heating	Sensors & Controls	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377
1054	Process Heat	1	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995	158,995
1052	Process Heat	1	Process Heating	Energy Information System	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1060		2		Industrial Other																			
1063	Industrial Othe	1	Industrial Other	Barrel Insulation - Inj. Molding (plastick)	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133	4,133
1066	Industrial Othe	2	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732	18,732
1062	Industrial Othe	2	Industrial Other	3 Phase High Eff Battery Charger - ROB	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136	2,136
1069	Industrial Othe	2	Industrial Other	Hybrid Injection Molding Machine - ROB	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108	6,108
1061	Industrial Othe	2	Industrial Other	High Efficiency Welders - ROB	693	693	693	693	693	693	693	693	693	693	693	693	693	693	693	693	693	693	693
1076	Industrial Othe	1	Industrial Other	On-Demand ventilation control for Dust and Fume Collection Systems	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179
1064	Industrial Othe	1	Industrial Other	Pellet Dryer Insulation (plastics)	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038	3,038
1075	Industrial Othe	1	Industrial Other	Industrial Air Curtain	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117	21,117
1067	Industrial Othe	1	Industrial Other	Lab Fume Hood Ventilation Reduction	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792
1071	Industrial Othe	1	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,519
1070	Industrial Othe	1	Industrial Other	3 Phase High Eff Battery Charger - Early Replacement	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256	2,256
1065	Industrial Othe	1	Industrial Other	Injection Molding Machine - efficient (plastics)	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132	4,132
1072	Industrial Othe	1	Industrial Other	High Efficiency Welders - Early Replacement	642	642	642	642	642	642	642	642	642	642	642	642	642	642	642	642	642	642	642
1073	Industrial Othe	1	Industrial Other	High Speed Turbo Blower for Wastewater	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382
1074	Industrial Othe	1	Industrial Other	Hybrid Injection Molding Machine - Early Replacement	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383	4,383
1068	Industrial Othe	1	Industrial Other	Process Fan Ventilation Reduction	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141	6,141
1080		1		Agriculture																			
1093	Agricultural	1	Agriculture	Fan Thermostat Controller	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487	120,487
1081	Agricultural	2	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304	21,304
1088	Agricultural	1	Agriculture	Milk Pre-Cooler Heat Exchanger	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289	118,289
1092	Agricultural	1	Agriculture	Low Pressure Sprinkler Nozzles	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477	44,477
1086	Agricultural	1	Agriculture	VFD for Process Fans - Agriculture	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291	70,291
1091	Agricultural	1	Agriculture	Grain Storage Temperature and Moisture Management Controller	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427	50,427
1089	Agricultural	1	Agriculture	VFD for Process Pumps - Agriculture	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760	127,760
1094	Agricultural	2	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053	17,053
1087	Agricultural	1	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991	57,991
1095	Agricultural	1	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150
1083	Agricultural	1	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	1	Agriculture	VFD for Process Pumps - Irrigation	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807	159,807
1082	Agricultural	1	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	2	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	1	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Totals (*1000)	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791	56,791

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	Year by Year Units Installed																	
					2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
100				Computers & Office Equipment																		
102	Computers &	2	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
104	Computers &	1	Office Equipment	PC Network Energy Management Controls replacing no central control	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236
107	Computers &	2	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
109	Computers &	1	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261
111	Computers &	1	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
101	Computers &	2	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	1	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	1	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	2	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	1	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150				Water Heating																		
165	Water Heating	1	Water Heating	Low Flow Faucet Aerator	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
168	Water Heating	1	Water Heating	Tank Insulation (electric)	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
171	Water Heating	1	Water Heating	Process Cooling Condenser Heat Recovery	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
151	Water Heating	2	Water Heating	Heat Pump Water Heater-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	Water Heating	2	Water Heating	Efficient Hot Water Pump-ROB	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
164	Water Heating	1	Water Heating	HVAC Condenser Heater Recovery Water Heating	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176	Water Heating	1	Water Heating	Heat Pump Water Heater-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	Water Heating	1	Water Heating	Efficient Hot Water Pump-Early Replacement	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
167	Water Heating	1	Water Heating	Hot Water (DHW) Pipe Insulation	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297	297
166	Water Heating	1	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	2	Water Heating	Heat Pump Storage Water Heating-ROB	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
170	Water Heating	1	Water Heating	ECM Circulator Pump	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
152	Water Heating	2	Water Heating	Electric Tankless Water Heater-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
169	Water Heating	1	Water Heating	Drain Water Heat Recovery Water Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	Water Heating	1	Water Heating	Heat Pump Storage Water Heating-Early Replacement	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
177	Water Heating	1	Water Heating	Electric Tankless Water Heater-Early Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300				Building Envelope																		
302	Other	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Other	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Other	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Other	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Other	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Other	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Other	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Other	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Other	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Other	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320				Ventilation																		
322	Ventilation	1	Ventilation	Variable Speed Drive Control, 15 HP	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
323	Ventilation	1	Ventilation	Variable Speed Drive Control, 5 HP	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
324	Ventilation	1	Ventilation	Variable Speed Drive Control, 40 HP	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
333	Ventilation	1	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	1	Ventilation	Destratification Fan (HVLS)	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513	9.513
321	Ventilation	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	1	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	1	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340				Space Cooling - Chillers																		
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
302	Space coolers	2	Envelope	Energy Efficient Windows-ROB	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
350	Space coolers	1	Space Cooling - Chillers	Chiller Tune Up	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
351	Space coolers	1	Space Cooling - Chillers	Efficient Chilled Water Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space coolers	1	Space Cooling - Chillers	Wall Insulation	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
347	Space coolers	1	Space Cooling - Chillers	Chilled Hot Water Reset	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
343	Space coolers	1	Space Cooling - Chillers	Water Side Economizer	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
345	Space coolers	2	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
348	Space coolers	2	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
344	Space coolers	1	Space Cooling - Chillers	VAV System Conversion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space coolers	1	Space Cooling - Chillers	Integrated Building Design	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
346	Space coolers	1	Space Cooling - Chillers	Motor Belt Replacement	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	2	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
342	Space coolers	2	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97
309	Space coolers	1	Envelope	Energy Efficient Windows-Early Replacement	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
304	Space coolers	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	2	Space Cooling - Chillers	High Efficiency Pumps-ROB	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
354	Space coolers	1	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
307	Space coolers	1	Space Cooling - Chillers	Roof Insulation	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
356	Space coolers	1	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
357	Space coolers	1	Space Cooling - Chillers	High Efficiency Pumps-ER	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
353	Space coolers	1	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
355	Space coolers	1	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
321	Space coolers	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	Year by Year Units Installed																	
					2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
100				Computers & Office Equipment																		
360				HVAC Controls																		
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380				Space Cooling - Unitary and Split AC																		
363	Space Cooling	1	Space Cooling - Chillers	Commercial EMS	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366
368	Space Cooling	1	Space Cooling - Chillers	Setback with Electric Heat	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
302	Space Cooling	2	Envelope	Energy Efficient Windows-ROB	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
370	Space Cooling	1	Space Cooling - Chillers	Web Enabled EMS	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141
364	Space Cooling	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
306	Space Cooling	1	Space Cooling - Chillers	Wall Insulation	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
301	Space Cooling	1	Space Cooling - Chillers	Integrated Building Design	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
371	Space Cooling	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Cooling	1	Envelope	Energy Efficient Windows-Early Replacement	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
391	Space Cooling	1	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	268	268	268	268	268	268	268	268	268	268	268	268	268	268	268	268	268	268
369	Space Cooling	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
387	Space Cooling	2	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238
304	Space Cooling	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
392	Space Cooling	2	Space Cooling - Unitary and Split AC	Room AC-ROB	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171
307	Space Cooling	1	Space Cooling - Chillers	Roof Insulation	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
398	Space Cooling	1	Space Cooling - Unitary and Split AC	Room AC-ER	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216
321	Space Cooling	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Cooling	1	Space Cooling - Chillers	Window Improvements	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
362	Space Cooling	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space Cooling	2	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671
384	Space Cooling	2	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space Cooling	2	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space Cooling	1	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Cooling	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Cooling	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Cooling	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space Cooling	2	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266	2,266
393	Space Cooling	1	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
399	Space Cooling	1	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space Cooling	1	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space Cooling	1	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Cooling	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400				Cooking																		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609				Lighting																		
555	Lighting	2	Lighting Controls	Lighting Power Density - Parking Garage-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
564	Lighting	1	Lighting Controls	Lighting Power Density - Parking Garage-ER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
554	Lighting	2	Lighting Controls	Lighting Power Density- Exterior-ROB	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
563	Lighting	1	Lighting Controls	Lighting Power Density- Exterior-ER	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
561	Lighting	1	Lighting Controls	Lighting Power Density - Interior	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
513	Lighting	1	Lighting	LED Low Bay Lighting	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
517	Lighting	1	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182
515	Lighting	1	Lighting	High Intensity Fluorescent Fixture (replacing HID)	513	513	513	513	513	513	513	513	513	513	513	513	513	513	513	513	513	513
509	Lighting	1	Lighting	LED Exit Sign	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174	174
528	Lighting	1	Lighting	LED Downlight	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
501	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415
556	Lighting	1	Lighting Controls	Stairwell Bi-Level Control	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
562	Lighting	1	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	1	Lighting Controls	Occupancy Sensor	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729
503	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465	3,465
548	Lighting	1	Lighting	LED Specialty replacing incandescent	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604
551	Lighting	1	Lighting Controls	Exterior Bi-level Controls	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
524	Lighting	1	Lighting	LED Screw In Replacing Incandescent	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415
520	Lighting	2	Lighting	Interior Induction Lighting-ROB	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507	69,507
553	Lighting	1	Lighting Controls	Daylight Sensor Controls	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
559	Lighting	1	Lighting Controls	Central Lighting Control	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
550	Lighting	1	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.	Lighting	1	Lighting	Interior Induction Lighting-ER	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379	56,379
506	Lighting	1	Lighting	T5 HP replacing T12	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
537	Lighting	1	Lighting	LED Grow Light	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398	108,398
505	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036	4,036
502	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515	5,515
536	Lighting	1	Lighting	LED Tube Lighting	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988	6,988
560	Lighting	1	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
558	Lighting	1	Lighting Controls	Occupancy Sensor & Daylight Sensor	549	549	549	549	549	549	549	549	549	549	549	549	549	549	549	549	549	549
512	Lighting	1	Lighting	LED High Bay Lighting	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128
508	Lighting	1	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	1	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	1	Lighting Controls	Garage Bi-level Controls	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
542	Lighting	1	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031	147,031
545	Lighting	1	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	2	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
549	Lighting	1	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	1	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	1	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	1	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.	Lighting	1	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	1	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600				Refrigeration																		
614	Process cooli	1	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process cooli	2	Refrigeration	H.E. Evaporative Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process cooli	2	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process cooli	2	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process cooli	1	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process cooli	1	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process cooli	2	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process cooli	1	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process cooli	1	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process cooli	1	Refrigeration	Zero-Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process cooli	2	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process cooli	1	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process cooli	2	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process cooli	1	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process cooli	1	Refrigeration	Reach-in Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process cooli	2	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process cooli	2	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process cooli	2	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process cooli	2	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	Year by Year Units Installed																	
					2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
100				Computers & Office Equipment																		
700				Compressed Air																		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800				Space Heating																		
363	Space Heating	1	Space Cooling - Chillers	Commercial EMS	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
368	Space Heating	1	Space Cooling - Chillers	Setback with Electric Heat	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
302	Space Heating	2	Envelope	Energy Efficient Windows-ROB	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
370	Space Heating	1	Space Cooling - Chillers	Web Enabled EMS	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
364	Space Heating	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
306	Space Heating	1	Space Cooling - Chillers	Wall Insulation	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
806	Space Heating	1	Space Heating	VFD Pump	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
301	Space Heating	1	Space Cooling - Chillers	Integrated Building Design	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
371	Space Heating	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	1	Envelope	Energy Efficient Windows-Early Replacement	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
369	Space Heating	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
304	Space Heating	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	2	Space Heating	Ground Source Heat Pump - Heating-ROB	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404
307	Space Heating	1	Space Cooling - Chillers	Roof Insulation	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
805	Space Heating	2	Space Heating	Water Loop Heat Pump (WLHP) - Heating	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
332	Space Heating	1	Ventilation	Destratification Fan (HVLS)	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907	5,907
321	Space Heating	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	1	Space Cooling - Chillers	Window Improvements	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
362	Space Heating	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	1	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	2	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	1	Space Heating	Ground Source Heat Pump - Heating-ER	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313
365	Space Heating	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	2	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	1	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	1	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	1	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900				Other																		
913	Other	1	Other	Engine Block Heater Timer	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
911	Other	1	Other	Parking Garage Exhaust Fan CO Control	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
903	Other	2	Other	NEMA Premium Transformer, three-phase-ROB	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
909	Other	2	Other	High Efficiency Transformer, three-phase-ROB	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182
901	Other	2	Other	High Efficiency Transformer, single-phase-ROB	747	747	747	747	747	747	747	747	747	747	747	747	747	747	747	747	747	747
902	Other	2	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	1	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	1	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	1	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	1	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	1	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000				Machine Drive																		
1022	Machine Drive	1	Machine Drive	Air-Entraining Air Nozzles	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
1006	Machine Drive	1	Machine Drive	Advanced Lubricants	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264
1010	Machine Drive	1	Machine Drive	Compressed Air System Management	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654
1018	Machine Drive	1	Machine Drive	Storage Tank Addition (comp air)	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378
1023	Machine Drive	2	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	530	530	530	530	530	530	530	530	530	530	530	530	530	530	530	530	530	530
1029	Machine Drive	2	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583	583
1019	Machine Drive	2	Machine Drive	High Efficiency Dryers (comp air) - ROB	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467	3,467
1030	Machine Drive	1	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682	682
1016	Machine Drive	1	Machine Drive	Elec motors replacing pneumatic (comp air)	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
1008	Machine Drive	1	Machine Drive	Pump System Efficiency Improvements	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670	1,282,670
1015	Machine Drive	1	Machine Drive	Compressed Air Audits and Leak Repair	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087	19,087
1025	Machine Drive	1	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287
1007	Machine Drive	1	Machine Drive	Motor System Optimization (Including ASD)	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462	4,061,462
1003	Machine Drive	1	Machine Drive	Electric Supply System Improvements	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008	920,008
1014	Machine Drive	2	Machine Drive	High Efficiency Pumps - ROB	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388	2,388
1028	Machine Drive	1	Machine Drive	Synchronous belt drives	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833	17,833
1024	Machine Drive	1	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
1001	Machine Drive	1	Machine Drive	Sensors & Controls	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093	345,093
1013	Machine Drive	1	Machine Drive	VFD for Process Pumps	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565
1012	Machine Drive	1	Machine Drive	VFD for Process Fans	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742
1005	Machine Drive	1	Machine Drive	Industrial Motor Management	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483	474,483
1027	Machine Drive	1	Machine Drive	Receiver Capacity Addition	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
1009	Machine Drive	1	Machine Drive	Fan System Improvements	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058	102,058
1021	Machine Drive	1	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
1026	Machine Drive	1	Machine Drive	High Efficiency Pumps - Early Replacement	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428	2,428
1017	Machine Drive	1	Machine Drive	Automatic Drains, High-efficiency nozzles and other (comp air)	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
1033	Machine Drive	1	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	453	453	453	453	453	453	453	453	453	453	453	453	453	453	453	453	453	453
1011	Machine Drive	1	Machine Drive	Compressed Air - Advanced Compressor Controls	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401	131,401
1002	Machine Drive	1	Machine Drive	Energy Information System	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001	97,001
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	Year by Year Units Installed																	
					2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
100				Computers & Office Equipment																		
1040		1		Process Cooling & Refrigeration																		
1048	Process Cooli	2	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311
1049	Process Cooli	1	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776	2,776
1046	Process Cooli	1	Process Cooling & Refrig	Floating Head Pressure Control	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149
1043	Process Cooli	1	Process Cooling & Refrig	Electric Supply System Improvements	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040	183,040
1041	Process Cooli	1	Process Cooling & Refrig	Sensors & Controls	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739	152,739
1044	Process Cooli	1	Process Cooling & Refrig	Improved Refrigeration	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912	579,912
1047	Process Cooli	1	Process Cooling & Refrig	Refrigerant charging correction	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194	9,194
1042	Process Cooli	1	Process Cooling & Refrig	Energy Information System	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185	43,185
1045	Process Cooli	1	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050		1		Process Heating																		
1053	Process Heati	1	Process Heating	Electric Supply System Improvements	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947	344,947
1051	Process Heati	1	Process Heating	Sensors & Controls	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377	293,377
1054	Process Heati	1	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
1052	Process Heati	1	Process Heating	Energy Information System	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283	108,283
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1069		2		Industrial Other																		
1063	Industrial Othe	1	Industrial Other	Barrel Insulation - Inj. Molding (plastics)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1066	Industrial Othe	2	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1062	Industrial Othe	2	Industrial Other	3 Phase High Eff Battery Charger - ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1069	Industrial Othe	2	Industrial Other	Hybrid Injection Molding Machine - ROB	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
1061	Industrial Othe	2	Industrial Other	High Efficiency Welders - ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1076	Industrial Othe	1	Industrial Other	On-Demand ventilation control for Dust and Fume Collection Systems	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1064	Industrial Othe	1	Industrial Other	Pellet Dryer Insulation (plastics)	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
1075	Industrial Othe	1	Industrial Other	Industrial Air Curtain	199	199	199	199	199	199	199	199	199	199	199	199	199	199	199	199	199	199
1067	Industrial Othe	1	Industrial Other	Lab Fume Hood Ventilation Reduction	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191
1071	Industrial Othe	1	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1070	Industrial Othe	1	Industrial Other	3 Phase High Eff Battery Charger - Early Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1065	Industrial Othe	1	Industrial Other	Injection Molding Machine - efficient (plastics)	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
1072	Industrial Othe	1	Industrial Other	High Efficiency Welders - Early Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1073	Industrial Othe	1	Industrial Other	High Speed Turbo Blower for Wastewater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1074	Industrial Othe	1	Industrial Other	Hybrid Injection Molding Machine - Early Replacement	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
1068	Industrial Othe	1	Industrial Other	Process Fan Ventilation Reduction	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804	2,804
1080		1		Agriculture																		
1093	Agricultural	1	Agriculture	Fan Thermostat Controller	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
1081	Agricultural	2	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
1086	Agricultural	1	Agriculture	Milk Pre-Cooler Heat Exchanger	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598	97,598
1092	Agricultural	1	Agriculture	Low Pressure Sprinkler Nozzles	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895
1088	Agricultural	1	Agriculture	VFD for Process Fans - Agriculture	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
1091	Agricultural	1	Agriculture	Grain Storage Temperature and Moisture Management Controller	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
1089	Agricultural	1	Agriculture	VFD for Process Pumps - Agriculture	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
1094	Agricultural	2	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200	29,200
1087	Agricultural	1	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97
1095	Agricultural	1	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
1083	Agricultural	1	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	1	Agriculture	VFD for Process Pumps - Irrigation	820	820	820	820	820	820	820	820	820	820	820	820	820	820	820	820	820	820
1082	Agricultural	1	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	1	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	1	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Totals (*1000)	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224	19,224

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Year by Year Energy Savings (kW)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
102	Computers &	2	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	3
104	Computers &	1	Office Equipment	PC Network Energy Management Controls replacing no central control	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0
107	Computers &	2	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
109	Computers &	1	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	2
111	Computers &	1	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	Computers &	2	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	1	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	1	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	2	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	1	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155				Water Heating																			
165	Water Heating	1	Water Heating	Low Flow Faucet Aerator	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	1
168	Water Heating	1	Water Heating	Tank Insulation (electric)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
171	Water Heating	1	Water Heating	Process Cooling Condenser Heat Recovery	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
151	Water Heating	2	Water Heating	Heat Pump Water Heater-ROB	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
153	Water Heating	2	Water Heating	Efficient Hot Water Pump-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
164	Water Heating	1	Water Heating	HVAC Condenser Heater Recovery Water Heating	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0
176	Water Heating	1	Water Heating	Heat Pump Water Heater-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	Water Heating	1	Water Heating	Efficient Hot Water Pump-Early Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
167	Water Heating	1	Water Heating	Hot Water (DHW) Pipe Insulation	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
166	Water Heating	1	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	2	Water Heating	Heat Pump Storage Water Heating-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
170	Water Heating	1	Water Heating	ECM Circulator Pump	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
152	Water Heating	2	Water Heating	Electric Tankless Water Heater-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	Water Heating	1	Water Heating	Drain Water Heat Recovery Water Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	Water Heating	1	Water Heating	Heat Pump Storage Water Heating-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	Water Heating	1	Water Heating	Electric Tankless Water Heater-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300				Building Envelope																			
302	Other	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Other	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Other	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Other	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Other	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Other	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Other	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Other	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Other	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Other	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320				Ventilation																			
322	Ventilation	1	Ventilation	Variable Speed Drive Control, 15 HP	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	7
323	Ventilation	1	Ventilation	Variable Speed Drive Control, 5 HP	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	7
324	Ventilation	1	Ventilation	Variable Speed Drive Control, 40 HP	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	7
333	Ventilation	1	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	1	Ventilation	Destratification Fan (HVLS)	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	14
321	Ventilation	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	1	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	1	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340				Space Cooling - Chillers																			
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
302	Space coolers	2	Envelope	Energy Efficient Windows-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-1
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	Space coolers	1	Space Cooling - Chillers	Chiller Tune Up	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
351	Space coolers	1	Space Cooling - Chillers	Efficient Chilled Water Pump	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
306	Space coolers	1	Space Cooling - Chillers	Wall Insulation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
347	Space coolers	1	Space Cooling - Chillers	Chilled Hot Water Reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
343	Space coolers	1	Space Cooling - Chillers	Water Side Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345	Space coolers	2	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0
348	Space coolers	2	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0
344	Space coolers	1	Space Cooling - Chillers	VAV System Conversion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space coolers	1	Space Cooling - Chillers	Integrated Building Design	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	7
346	Space coolers	1	Space Cooling - Chillers	Motor Belt Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	2	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	1
342	Space coolers	2	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	1
309	Space coolers	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Space coolers	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	2	Space Cooling - Chillers	High Efficiency Pumps-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
354	Space coolers	1	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	-1
307	Space coolers	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
356	Space coolers	1	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
357	Space coolers	1	Space Cooling - Chillers	High Efficiency Pumps-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
353	Space coolers	1	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1
355	Space coolers	1	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
321	Space coolers	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Year by Year Energy Savings (kW)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name																			
100				Computers & Office Equipment	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
360				HVAC Controls																			
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380				Space Cooling - Unitary and Split AC																			
363	Space Cooling	1	Space Cooling - Chillers	Commercial EMS	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1
368	Space Cooling	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
302	Space Cooling	2	Envelope	Energy Efficient Windows-ROB	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0
370	Space Cooling	1	Space Cooling - Chillers	Web Enabled EMS	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-53	-7
364	Space Cooling	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
306	Space Cooling	1	Space Cooling - Chillers	Wall Insulation	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	2
301	Space Cooling	1	Space Cooling - Chillers	Integrated Building Design	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379	66
371	Space Cooling	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Cooling	1	Envelope	Energy Efficient Windows-Early Replacement	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1
391	Space Cooling	1	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	4
369	Space Cooling	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
387	Space Cooling	2	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0
304	Space Cooling	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
392	Space Cooling	2	Space Cooling - Unitary and Split AC	Room AC-ROB	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	4
307	Space Cooling	1	Space Cooling - Chillers	Roof Insulation	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1
398	Space Cooling	1	Space Cooling - Unitary and Split AC	Room AC-ER	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	6
321	Space Cooling	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Cooling	1	Space Cooling - Chillers	Window Improvements	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
362	Space Cooling	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space Cooling	2	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	6
384	Space Cooling	2	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space Cooling	2	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space Cooling	1	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Cooling	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Cooling	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Cooling	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space Cooling	2	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	32
393	Space Cooling	1	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395	Space Cooling	1	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space Cooling	1	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space Cooling	1	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Cooling	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400				Cooking																			
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500				Lighting																			
556	Lighting	2	Lighting Controls	Lighting Power Density - Parking Garage-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
564	Lighting	1	Lighting Controls	Lighting Power Density - Parking Garage-ER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
554	Lighting	2	Lighting Controls	Lighting Power Density- Exterior-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
563	Lighting	1	Lighting Controls	Lighting Power Density- Exterior-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
561	Lighting	1	Lighting Controls	Lighting Power Density - Interior	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	1
513	Lighting	1	Lighting	LED Low Bay Lighting	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	9
517	Lighting	1	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	5
515	Lighting	1	Lighting	High Intensity Fluorescent Fixture (replacing HID)	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	20
509	Lighting	1	Lighting	LED Exit Sign	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	1
528	Lighting	1	Lighting	LED Downlight	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
501	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	18
556	Lighting	1	Lighting Controls	Stairwell Bi-Level Control	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1
562	Lighting	1	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	1	Lighting Controls	Occupancy Sensor	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	2
503	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	18
548	Lighting	1	Lighting	LED Specialty replacing Incandescent	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	1
551	Lighting	1	Lighting Controls	Exterior Bi-level Controls	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	3
524	Lighting	1	Lighting	LED Screw In Replacing Incandescent	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	1
520	Lighting	2	Lighting	Interior Induction Lighting-ROB	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	11
553	Lighting	1	Lighting Controls	Daylight Sensor Controls	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	21
559	Lighting	1	Lighting Controls	Central Lighting Control	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	14
550	Lighting	1	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	Lighting	1	Lighting	Interior Induction Lighting-ER	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	11
506	Lighting	1	Lighting	T5 HP replacing T 12	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	11
537	Lighting	1	Lighting	LED Grow Light	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	14
505	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	12
502	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	4
536	Lighting	1	Lighting	LED Tube Lighting	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	12
560	Lighting	1	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	18
558	Lighting	1	Lighting Controls	Occupancy Sensor & Daylight Sensor	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	7
512	Lighting	1	Lighting	LED High Bay Lighting	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	24
508	Lighting	1	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	1	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	1	Lighting Controls	Garage Bi-level Controls	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	1
542	Lighting	1	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	16
545	Lighting	1	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	2	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
546	Lighting	1	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	1	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	1	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	1	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	Lighting	1	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	1	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600				Refrigeration																			
614	Process cooli	1	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process cooli	1	Refrigeration	H.E. Evaporative Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process cooli	2	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process cooli	2	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process cooli	1	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process cooli	2	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process cooli	1	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process cooli	1	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process cooli	2	Refrigeration	Zero-Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process cooli	2	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process cooli	1	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process cooli	2	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process cooli	1	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process cooli	1	Refrigeration	Reach-in Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process cooli	2	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process cooli	2	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process cooli	2	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process cooli	2	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Year by Year Energy Savings (kW)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
700				Compressed Air																			
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800				Space Heating																			
363	Space Heating	1	Space Cooling - Chillers	Commercial EMS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
368	Space Heating	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
302	Space Heating	2	Envelope	Energy Efficient Windows-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
370	Space Heating	1	Space Cooling - Chillers	Web Enabled EMS	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-2
364	Space Heating	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space Heating	1	Space Cooling - Chillers	Wall Insulation	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
806	Space Heating	1	Space Heating	VFD Pump	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0
301	Space Heating	1	Space Cooling - Chillers	Integrated Building Design	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	15
371	Space Heating	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	1	Envelope	Energy Efficient Windows-Early Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
369	Space Heating	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Space Heating	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	2	Space Heating	Ground Source Heat Pump - Heating-ROB	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	6
307	Space Heating	1	Space Cooling - Chillers	Roof Insulation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
805	Space Heating	2	Space Heating	Water Loop Heat Pump (WLHP) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Space Heating	1	Ventilation	Destratification Fan (HVLS)	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	7
321	Space Heating	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space Heating	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	1	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	2	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	1	Space Heating	Ground Source Heat Pump - Heating-ER	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	2
365	Space Heating	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	2	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	1	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	1	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	1	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900				Other																			
913	Other	1	Other	Engine Block Heater Timer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
911	Other	1	Other	Parking Garage Exhaust Fan CO Control	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
903	Other	2	Other	NEMA Premium Transformer, three-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
909	Other	2	Other	High Efficiency Transformer, three-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
901	Other	2	Other	High Efficiency Transformer, single-phase-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
902	Other	2	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	1	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	1	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	1	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	1	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	1	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000				Machine Drive																			
1022	Machine Drive	1	Machine Drive	Air-Entraining Air Nozzles	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	4
1006	Machine Drive	1	Machine Drive	Advanced Lubricants	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	692	3
1010	Machine Drive	1	Machine Drive	Compressed Air System Management	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	1,036	8
1018	Machine Drive	1	Machine Drive	Storage Tank Addition (comp air)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1023	Machine Drive	2	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	9
1029	Machine Drive	2	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	24
1019	Machine Drive	2	Machine Drive	High Efficiency Dryers (comp air) - ROB	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	1
1030	Machine Drive	1	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	34
1016	Machine Drive	1	Machine Drive	Elec motors replacing pneumatic (comp air)	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	415	15
1008	Machine Drive	1	Machine Drive	Pump System Efficiency Improvements	246	246	246	246	246	246	246	246	246	246	246	246	246	246	246	246	246	246	18
1015	Machine Drive	1	Machine Drive	Compressed Air Audits and Leak Repair	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661	4
1025	Machine Drive	1	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	1
1007	Machine Drive	1	Machine Drive	Motor System Optimization (including ASD)	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742	742	33
1003	Machine Drive	1	Machine Drive	Electric Supply System Improvements	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	11
1014	Machine Drive	2	Machine Drive	High Efficiency Pumps - ROB	581	581	581	581	581	581	581	581	581	581	581	581	581	581	581	581	581	581	38
1028	Machine Drive	1	Machine Drive	Synchronous belt drives	731	731	731	731	731	731	731	731	731	731	731	731	731	731	731	731	731	731	7
1024	Machine Drive	1	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	10
1001	Machine Drive	1	Machine Drive	Sensors & Controls	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	4
1013	Machine Drive	1	Machine Drive	VFD for Process Pumps	521	521	521	521	521	521	521	521	521	521	521	521	521	521	521	521	521	521	42
1012	Machine Drive	1	Machine Drive	VFD for Process Fans	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	15
1005	Machine Drive	1	Machine Drive	Industrial Motor Management	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	1
1027	Machine Drive	1	Machine Drive	Receiver Capacity Addition	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	1
1009	Machine Drive	1	Machine Drive	Fan System Improvements	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	3
1021	Machine Drive	1	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	2
1026	Machine Drive	1	Machine Drive	High Efficiency Pumps - Early Replacement	590	590	590	590	590	590	590	590	590	590	590	590	590	590	590	590	590	590	48
1017	Machine Drive	1	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1031	Machine Drive	1	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	11
1011	Machine Drive	1	Machine Drive	Compressed Air - Advanced Compressor Controls	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	2
1002	Machine Drive	1	Machine Drive	Energy Information System	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	2
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Year by Year Energy Savings (kW)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100		1		Computers & Office Equipment																			
1040		1		Process Cooling & Refrigeration																			
1048	Process Cool	2	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	1
1049	Process Cool	1	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	1
1046	Process Cool	1	Process Cooling & Refrig	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1043	Process Cool	1	Process Cooling & Refrig	Electric Supply System Improvements	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	2
1041	Process Cool	1	Process Cooling & Refrig	Sensors & Controls	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	1
1044	Process Cool	1	Process Cooling & Refrig	Improved Refrigeration	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	5
1047	Process Cool	1	Process Cooling & Refrig	Refrigerant charging correction	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	4
1042	Process Cool	1	Process Cooling & Refrig	Energy Information System	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0
1045	Process Cool	1	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050		1		Process Heating																			
1055	Process Heat	1	Process Heating	Electric Supply System Improvements	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	4
1051	Process Heat	1	Process Heating	Sensors & Controls	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	3
1054	Process Heat	1	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
1052	Process Heat	1	Process Heating	Energy Information System	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	1
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1060		2		Industrial Other																			
1063	Industrial Othe	1	Industrial Other	Barrel Insulation - Inj. Molding (plastics)	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	2
1066	Industrial Othe	2	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	1
1062	Industrial Othe	2	Industrial Other	3 Phase High Eff Battery Charger - ROB	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	5
1069	Industrial Othe	2	Industrial Other	Hybrid Injection Molding Machine - ROB	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	745	4
1061	Industrial Othe	2	Industrial Other	High Efficiency Welders - ROB	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0
1076	Industrial Othe	1	Industrial Other	On-Demand ventilation control for Dust and Fume Collection Systems	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1064	Industrial Othe	1	Industrial Other	Pellet Dryer Insulation (plastics)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1075	Industrial Othe	1	Industrial Other	Industrial Air Curtain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1067	Industrial Othe	1	Industrial Other	Lab Fume Hood Ventilation Reduction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1071	Industrial Othe	1	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1070	Industrial Othe	1	Industrial Other	3 Phase High Eff Battery Charger - Early Replacement	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	4
1065	Industrial Othe	1	Industrial Other	Injection Molding Machine - efficient (plastics)	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	3
1072	Industrial Othe	1	Industrial Other	High Efficiency Welders - Early Replacement	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
1073	Industrial Othe	1	Industrial Other	High Speed Turbo Blower for Wastewater	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	1
1074	Industrial Othe	1	Industrial Other	Hybrid Injection Molding Machine - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1068	Industrial Othe	1	Industrial Other	Process Fan Ventilation Reduction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085		1		Agriculture																			
1093	Agricultural	1	Agriculture	Fan Thermostat Controller	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1081	Agricultural	2	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1086	Agricultural	1	Agriculture	Milk Pre-Cooler Heat Exchanger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1092	Agricultural	1	Agriculture	Low Pressure Sprinkler Nozzles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1088	Agricultural	1	Agriculture	VFD for Process Fans - Agriculture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1091	Agricultural	1	Agriculture	Grain Storage Temperature and Moisture Management Controller	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1089	Agricultural	1	Agriculture	VFD for Process Pumps - Agriculture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1094	Agricultural	2	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1087	Agricultural	1	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
1095	Agricultural	1	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
1083	Agricultural	1	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	1	Agriculture	VFD for Process Pumps - Irrigation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
1082	Agricultural	1	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	1	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
1084	Agricultural	1	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
				Totals (*1000)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Cumulative Energy Savings (kWh)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
102	Computers & O	2	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	118,794	237,588	356,382	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176	475,176
104	Computers & O	1	Office Equipment	PC Network Energy Management Controls replacing no central control	47,102	94,203	141,305	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406	188,406
107	Computers & O	2	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	5,860	11,719	17,579	23,438	29,298	35,157	41,017	46,876	52,736	58,595	64,455	70,314	76,174	82,033	87,893	87,893	87,893	87,893	90,237
109	Computers & O	1	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	381,948	763,896	1,145,843	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791	1,527,791
111	Computers & O	1	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	2,294	4,588	6,882	9,176	11,470	13,765	16,059	18,353	20,647	22,941	25,235	27,529	29,823	32,117	34,411	34,411	34,411	34,411	35,329
101	Computers & O	2	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers & O	1	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers & O	1	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers & O	2	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers & O	1	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150				Water Heating																			
165	Water Heating	1	Water Heating	Low Flow Faucet Aerator	104,747	209,494	314,241	418,988	523,735	628,482	733,229	837,976	942,722	1,047,469	1,047,469	1,047,469	1,047,469	1,047,469	1,047,469	1,047,469	1,047,469	1,047,469	1,047,469
166	Water Heating	1	Water Heating	Tank Insulation (electric)	9,613	19,226	28,839	38,452	48,064	57,677	67,290	76,903	86,516	96,129	105,742	115,355	124,968	134,581	144,193	144,193	144,193	144,193	148,039
171	Water Heating	1	Water Heating	Process Cooling Condenser Heat Recovery	10,006	20,013	30,019	40,026	50,032	60,038	70,045	80,051	90,058	100,064	110,071	120,077	130,084	140,090	150,096	150,096	150,096	150,096	154,099
151	Water Heating	2	Water Heating	Heat Pump Water Heater-ROB	9,738	19,476	29,215	38,953	48,691	58,429	68,168	77,906	87,644	97,382	107,121	116,859	126,597	136,335	146,073	146,073	146,073	146,073	149,969
153	Water Heating	2	Water Heating	Efficient Hot Water Pump-ROB	5,296	10,591	15,887	21,182	26,478	31,774	37,069	42,365	47,660	52,956	58,252	63,547	68,843	74,138	79,434	79,434	79,434	79,434	81,552
164	Water Heating	1	Water Heating	HVAC Condenser Heater Recovery Water Heating	4,221	8,443	12,664	16,885	21,107	25,328	29,549	33,771	37,992	42,213	46,434	50,656	54,877	59,098	63,320	63,320	63,320	63,320	65,008
176	Water Heating	1	Water Heating	Heat Pump Water Heater-Early Replacement	2,474	4,948	7,423	9,897	12,371	14,845	17,319	19,794	22,268	24,742	27,216	29,690	32,164	34,639	37,113	37,113	37,113	37,113	38,103
178	Water Heating	1	Water Heating	Efficient Hot Water Pump-Early Replacement	4,682	9,363	14,045	18,726	23,408	28,089	32,771	37,452	42,134	46,815	51,497	56,178	60,860	65,541	70,223	70,223	70,223	70,223	72,095
167	Water Heating	1	Water Heating	Hot Water (DHW) Pipe Insulation	13,300	26,601	39,901	53,201	66,501	79,802	93,102	106,402	119,703	133,003	146,303	159,604	172,904	186,204	199,504	212,805	226,105	239,405	252,706
168	Water Heating	1	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	2	Water Heating	Heat Pump Storage Water Heating-ROB	7,932	15,863	23,795	31,726	39,658	47,589	55,521	63,452	71,384	79,315	79,315	79,315	79,315	79,315	79,315	79,315	79,315	79,315	79,315
170	Water Heating	1	Water Heating	ECM Circulator Pump	5,462	10,924	16,385	21,847	27,309	32,771	38,233	43,695	49,156	54,618	60,080	65,542	71,004	76,466	81,927	81,927	81,927	81,927	84,112
152	Water Heating	2	Water Heating	Electric Tankless Water Heater-ROB	484	969	1,453	1,938	2,422	2,906	3,391	3,875	4,359	4,844	5,328	5,813	6,297	6,781	7,266	7,750	8,235	8,719	9,203
169	Water Heating	1	Water Heating	Drain Water Heat Recovery Water Heater	76	153	229	305	382	458	534	611	687	763	840	916	992	1,069	1,145	1,221	1,298	1,374	1,450
179	Water Heating	1	Water Heating	Heat Pump Storage Water Heating-Early Replacement	1,423	2,846	4,269	5,692	7,115	8,538	9,961	11,384	12,807	14,230	14,230	14,230	14,230	14,230	14,230	14,230	14,230	14,230	14,230
177	Water Heating	1	Water Heating	Electric Tankless Water Heater-Early Replacement	487	973	1,460	1,946	2,433	2,919	3,406	3,892	4,379	4,865	5,352	5,838	6,325	6,811	7,298	7,784	8,271	8,757	9,244
300				Building Envelope																			
302	Other	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Other	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Other	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Other	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Other	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Other	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	Other	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Other	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Other	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Other	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320				Ventilation																			
322	Ventilation	1	Ventilation	Variable Speed Drive Control, 15 HP	277,730	555,460	833,190	1,110,920	1,388,650	1,666,380	1,944,110	2,221,840	2,499,570	2,777,300	3,055,031	3,332,761	3,610,491	3,888,221	4,165,951	4,165,951	4,165,951	4,165,951	4,277,043
323	Ventilation	1	Ventilation	Variable Speed Drive Control, 5 HP	277,730	555,460	833,190	1,110,920	1,388,650	1,666,380	1,944,110	2,221,840	2,499,570	2,777,300	3,055,031	3,332,761	3,610,491	3,888,221	4,165,951	4,165,951	4,165,951	4,165,951	4,277,043
324	Ventilation	1	Ventilation	Variable Speed Drive Control, 40 HP	277,730	555,460	833,190	1,110,920	1,388,650	1,666,380	1,944,110	2,221,840	2,499,570	2,777,300	3,055,031	3,332,761	3,610,491	3,888,221	4,165,951	4,165,951	4,165,951	4,165,951	4,277,043
333	Ventilation	1	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	1	Ventilation	Destratification Fan (HVLS)	157,920	315,839	473,759	631,678	789,598	947,518	1,105,437	1,263,357	1,421,276	1,579,196	1,737,115	1,895,035	2,052,955	2,210,874	2,368,794	2,368,794	2,368,794	2,368,794	2,431,962
321	Ventilation	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	1	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	1	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340				Space Cooling - Chillers																			
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	38,680	77,360	116,039	154,719	193,399	232,079	270,759	309,438	348,118	386,798	425,478	464,157	502,837	541,517	580,197	580,197	580,197	580,197	595,669
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	17,065	34,129	51,194	68,258	85,323	102,388	119,452	136,517	153,581	153,581	153,581	153,581	153,581	153,581	153,581	153,581	153,581	153,581	153,581
302	Space coolers	2	Envelope	Energy Efficient Windows-ROB	30,531	61,061	91,592	122,123	152,653	183,184	213,714	244,245	274,776	305,306	335,837	366,368	396,898	427,429	457,959	488,490	519,021	549,551	580,082
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	37,091	74,183	111,274	148,365	185,457	222,548	259,640	296,731	333,822	370,914	408,005	445,096	482,188	519,279	556,370	556,370	556,370	556,370	571,207
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	1,556	3,313	4,969	6,625	8,282	9,938	11,595	13,251	14,907	16,564	18,220	19,876	21,533	23,189	24,846	26,502	28,158	29,815	31,471
350	Space coolers	1	Space Cooling - Chillers	Chiller Tune Up	3,244	6,488	9,732	12,977	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221	16,221
351	Space coolers	1	Space Cooling - Chillers	Efficient Chilled Water Pump	2,575	5,149	7,724	10,299	12,873	15,448	18,023	20,597	23,172	25,747	28,322	30,896	33,471	36,046	38,620	38,620	38,620	38,620	39,650
306	Space coolers	1	Space Cooling - Chillers	Wall Insulation	5,254	10,508	15,762	21,016	26,270	31,524	36,778	42,033	47,287	52,541	57,795	63,049	68,303	73,557	78,811	84,065	89,319	94,573	99,827
347	Space coolers	1	Space Cooling - Chillers	Chilled Hot Water Reset	15,558	31,115	46,673	62,231	77,788	93,346	108,904	124,462	124,462	124,462	124,462	124,462	124,462	124,462	124,462	124,462	124,462	124,462	124,462
343	Space coolers	1	Space Cooling - Chillers	Water Side Economizer	3,353	6,705	10,058	13,410	16,763	20,115	23,468	26,820	30,173	33,525	36,878	40,230	43,583	46,935	50,288	50,288	50,288	50,288	51,629
348	Space coolers	2	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	7,949	15,899	23,848	31,798	39,747	47,697	55,646	63,596	71,545	79,495	87,444	95,394	103,343	111,293	119,242	127,192	135,141	143,091	151,040
346	Space coolers	2	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	7,480	14,959	22,439	29,919	37,398	44,878	52,358	59,837	67,317	74,797	82,276	89,756	97,235	104,715	112,195	119,674	127,154	134,634	142,113
344	Space coolers	1	Space Cooling - Chillers	VAV System Conversion	851	1,702	2,554	3,405	4,256	5,107	5,958	6,809	7,661	8,512	9,363	10,214	11,065	11,917	12,768	13,619	14,470	15,321	16,172
301	Space coolers	1	Space Cooling - Chillers	Integrated Building Design	155,585	311,169	466,754	622,339	777,923	933,508	1,089,093	1,244,677	1,400,262	1,555,846	1,711,431	1,867,016	2,022,600	2,178,185	2,333,770	2,489,354	2,644,939	2,800,524	2,956,108
346	Space coolers	1	Space Cooling - Chillers	Motor Belt Replacement	675	1,350	2,025	2,699	3,374	4,049	4,724	5,399	6,074	6,749	7,424	8,098	8,773	9,448	9,448	9,448	9,448	9,448	9,448
375	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	2	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	39,643	79,285	118,928	158,571	198,213	237,856	277,499	317,142	356,784	396,427	436,070	475,712	515,355	554,998	594,640	634,283	673,926	713,568	753,211
342	Space coolers	2	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	40,239	80,477	120,716	160,955	201,193	241,432	281,671	321,910	362,148	402,387	442,626	482,864	523,103	563,342	603,580	643,819	684,058	724,297	764,535
309	Space coolers	1	Envelope	Energy Efficient Windows-Early Replacement	16,739	33,479	50,218	66,958	83,697	100,437	117,176	133,916	150,655	167,394	184,134	200,873	217,613	234,352	251,092	267,831	284,570	301,310	318,049
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	1,239	2,478	3,718	4,957	6,196	7,435	8,675	9,914	11,153	12,392	13,631	14,871	16,110	17,349	18,588	18,588	18,588	18,588	19,084
304	Space coolers	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	2	Space Cooling - Chillers	High Efficiency Pumps-ROB	514	1,028	1,542	2,055	2,569	3,083	3,597	4,111	4,625	5,139	5,653	6,166	6,680	7,194	7,708	7,708	7,708	7,708	7,914
354	Space coolers	1	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	15,643	31,287	46,930	62,574	78,217	93,861	109,504	125,148	140,791	156,434	172,078	187,721	203,365	219,008	234,652	250,295	265,939	281,582	297,225
307	Space coolers	1	Space Cooling - Chillers	Roof Insulation	703	1,407	2,110	2,813	3,517	4,220	4,924	5,627	6,330	7,034	7,737	8,440	9,144	9,847	10,551	11,254	11,957	12,661	13,364
358	Space coolers	1	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	2,720	5,440	8,159	10,879	13,599	16,319	19,038	21,758	24,478	27,198	29,917	32,637	35,357	38,077	40,797	43,516	46,236	48,956	51,676
353	Space coolers	1	Space Cooling - Chillers	High Efficiency Pumps-ER	604	1,208	1,812	2,416	3,020	3,624	4,228	4,832	5,436	6,040	6,644	7,248	7,852	8,456	9,060	9,060	9,060	9,060	9,302
359	Space coolers	1	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	14,220	28,440	42,659	56,879	71,099	85,319	99,538	113,758	127,978	142,198	156,418	170,637	184,857	199,077	213,297	227,516	241,736	255,956	270,176
355	Space coolers	1	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	2,973	5,947	8,920	11,893	14,867	17,840	20,814	23,787	26,760	29,734	32,707	35,680	38,654	41,627	44,600	47,574	50,547	53,521	56,494
321	Space coolers	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	1	Space Cooling - Chillers	Window Improvements	114	228	342	456	570	684	798	912	1,025	1,139	1,253	1,367	1,481	1,595	1,709	1,709	1,709	1,709	1,755
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Cumulative Energy Savings (kWh)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
360				HVAC Controls																			
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300				Space Cooling - Unitary and Split AC																			
363	Space Cooling	1	Space Cooling - Chillers	Commercial EMS	365,309	730,618	1,095,927	1,461,236	1,826,546	2,191,855	2,557,164	2,922,473	3,287,782	3,653,091	4,018,400	4,383,709	4,749,019	5,114,328	5,479,637	5,479,637	5,479,637	5,479,637	5,625,761
368	Space Cooling	1	Space Cooling - Chillers	Setback with Electric Heat	161,166	322,331	483,497	644,663	805,829	966,994	1,128,160	1,289,326	1,450,491	1,450,491	1,450,491	1,450,491	1,450,491	1,450,491	1,450,491	1,450,491	1,450,491	1,450,491	1,450,491
302	Space Cooling	2	Envelope	Energy Efficient Windows-ROB	288,345	576,690	865,034	1,153,379	1,441,724	1,730,069	2,018,414	2,306,758	2,595,103	2,883,448	3,171,793	3,460,138	3,748,482	4,036,827	4,325,172	4,613,517	4,901,861	5,190,206	5,478,551
370	Space Cooling	1	Space Cooling - Chillers	Web Enabled EMS	350,307	700,615	1,050,922	1,401,229	1,751,537	2,101,844	2,452,151	2,802,459	3,152,766	3,503,073	3,853,381	4,203,688	4,553,995	4,904,303	5,254,610	5,254,610	5,254,610	5,254,610	5,394,733
364	Space Cooling	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	15,643	31,287	46,930	62,574	78,217	93,861	109,504	125,148	140,791	156,435	172,078	187,722	203,365	219,009	234,652	250,296	265,939	281,583	297,226
306	Space Cooling	1	Space Cooling - Chillers	Wall Insulation	49,877	99,753	149,630	199,507	249,383	299,260	349,137	399,013	448,890	498,767	548,643	598,520	648,397	698,273	748,150	798,027	847,903	897,780	947,657
301	Space Cooling	1	Space Cooling - Chillers	Integrated Building Design	1,549,571	3,099,142	4,648,713	6,198,283	7,747,854	9,297,425	10,846,996	12,396,567	13,946,138	15,495,709	17,045,280	18,594,850	20,144,421	21,693,992	23,243,563	24,793,134	26,342,705	27,892,276	29,441,846
371	Space Cooling	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Cooling	1	Envelope	Energy Efficient Windows-Early Replacement	216,227	432,454	648,681	864,907	1,081,134	1,297,361	1,513,588	1,729,815	1,946,042	2,162,268	2,378,495	2,594,722	2,810,949	3,027,176	3,243,403	3,459,630	3,675,856	3,892,083	4,108,310
391	Space Cooling	1	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	28,991	57,983	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974	86,974
369	Space Cooling	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	19,052	38,104	57,156	76,208	95,260	114,312	133,364	152,416	171,468	190,520	209,572	228,624	247,676	266,728	285,780	285,780	285,780	285,780	293,401
387	Space Cooling	2	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	15,688	31,376	47,064	62,753	78,441	94,129	109,817	125,505	141,193	156,882	172,570	188,258	203,946	219,634	235,322	235,322	235,322	235,322	241,596
304	Space Cooling	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
392	Space Cooling	2	Space Cooling - Unitary and Split AC	Room AC-ROB	27,041	54,082	81,123	108,164	135,204	162,245	189,286	216,327	243,368	270,409	297,450	324,491	351,531	378,572	405,613	405,613	405,613	405,613	416,430
307	Space Cooling	1	Space Cooling - Chillers	Roof Insulation	7,399	14,799	22,198	29,597	36,997	44,396	51,795	59,195	66,594	73,993	81,393	88,792	96,191	103,591	110,990	118,389	125,789	133,188	140,587
398	Space Cooling	1	Space Cooling - Unitary and Split AC	Room AC-ER	34,084	68,169	102,253	136,338	170,422	204,507	238,591	272,676	306,760	340,845	374,929	409,014	443,098	477,183	511,267	511,267	511,267	511,267	524,901
321	Space Cooling	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Space Cooling - Chillers	Window Improvements	1,921	3,842	5,764	7,685	9,606	11,527	13,448	15,369	17,291	19,212	21,133	23,054	24,975	26,896	28,818	28,818	28,818	28,818	29,586
362	Space Cooling	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space Cooling	2	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	60,385	120,769	181,154	241,538	301,923	362,308	422,692	483,077	543,462	603,846	664,231	724,615	785,000	845,385	905,769	905,769	905,769	905,769	929,923
384	Space Cooling	2	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space Cooling	2	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space Cooling	1	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Cooling	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Cooling	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Cooling	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space Cooling	2	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	124,604	249,209	373,813	498,417	623,022	747,626	872,230	996,835	1,121,439	1,246,043	1,370,648	1,495,252	1,619,856	1,744,460	1,869,065	1,869,065	1,869,065	1,869,065	1,918,907
393	Space Cooling	1	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space Cooling	1	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space Cooling	1	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
399	Space Cooling	1	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Cooling	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400				Cooking																			
500				Lighting																			
556	Lighting	2	Lighting Controls	Lighting Power Density - Parking Garage-ROB	5,878	11,755	17,633	23,510	29,388	35,265	41,143	47,020	52,898	58,775	64,653	70,530	70,530	70,530	70,530	70,530	70,530	70,530	70,530
564	Lighting	1	Lighting Controls	Lighting Power Density - Parking Garage-ER	9,179	18,358	27,537	36,717	45,896	55,075	64,254	73,433	82,612	91,792	100,971	110,150	110,150	110,150	110,150	110,150	110,150	110,150	110,150
554	Lighting	2	Lighting Controls	Lighting Power Density- Exterior-ROB	62,737	125,475	188,212	250,950	313,687	376,425	439,162	501,900	564,637	627,375	690,112	752,850	752,850	752,850	752,850	752,850	752,850	752,850	752,850
563	Lighting	1	Lighting Controls	Lighting Power Density- Exterior-ER	97,063	194,126	291,189	388,252	485,315	582,377	679,440	776,503	873,566	970,629	1,067,692	1,164,755	1,164,755	1,164,755	1,164,755	1,164,755	1,164,755	1,164,755	1,164,755
561	Lighting	1	Lighting Controls	Lighting Power Density - Interior	35,385	70,769	106,154	141,539	176,924	212,308	247,693	283,078	318,462	353,847	389,232	424,617	460,001	495,386	530,771	530,771	530,771	530,771	544,925
513	Lighting	1	Lighting	LED Low Bay Lighting	209,098	418,195	627,293	836,390	1,045,488	1,254,586	1,463,683	1,672,781	1,881,878	2,090,976	2,300,074	2,509,171	2,718,269	2,927,367	3,136,464	3,345,562	3,554,659	3,763,757	3,972,855
517	Lighting	1	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	122,823	245,645	368,468	491,291	614,113	736,936	859,759	982,581	1,105,404	1,228,227	1,351,050	1,473,872	1,596,695	1,719,518	1,842,340	1,965,163	1,965,163	1,965,163	2,075,703
516	Lighting	1	Lighting	High Efficiency Fluorescent Fixture (replacing HID)	706,693	1,413,385	2,120,078	2,826,771	3,533,464	4,240,156	4,946,849	5,653,542	6,360,235	7,066,927	7,773,620	8,480,313	8,480,313	8,480,313	8,480,313	8,480,313	8,480,313	8,480,313	8,480,313
509	Lighting	1	Lighting	LED Exit Sign	39,101	78,201	117,302	156,402	195,503	234,603	273,704	312,804	351,905	391,005	430,106	469,206	508,307	547,407	586,508	625,608	625,608	625,608	660,798
528	Lighting	1	Lighting	LED Downlight	3,169	6,337	9,506	12,674	15,843	19,011	22,180	25,348	28,517	31,685	34,854	38,022	41,191	44,360	47,528	47,528	47,528	47,528	48,796
501	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	347,690	695,381	1,043,071	1,390,762	1,738,452	2,086,143	2,433,833	2,781,524	3,129,214	3,476,905	3,824,595	3,824,595	3,824,595	3,824,595	3,824,595	3,824,595	3,824,595	3,824,595	3,824,595
556	Lighting	1	Lighting Controls	Stairwell Bi-Level Control	64,679	129,357	194,036	258,714	323,393	388,071	452,750	517,428	582,107	582,107	582,107	582,107	582,107	582,107	582,107	582,107	582,107	582,107	582,107
562	Lighting	1	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	1	Lighting Controls	Occupancy Sensor	350,655	701,310	1,051,966	1,402,621	1,753,276	2,103,931	2,454,586	2,805,242	3,155,897	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552
503	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	254,324	508,648	762,971	1,017,295	1,271,619	1,525,943	1,780,266	2,034,590	2,288,914	2,543,238	2,797,561	3,051,885	3,306,209	3,560,533	3,814,856	3,814,856	3,814,856	3,814,856	3,916,586
548	Lighting	1	Lighting	LED Specialty replacing incandescent	123,836	247,672	371,508	495,344	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179	619,179
551	Lighting	1	Lighting Controls	Exterior Bi-level Controls	98,043	196,087	294,130	392,174	490,217	588,261	686,304	784,348	882,391	980,434	1,078,478	1,176,521	1,176,521	1,176,521	1,176,521	1,176,521	1,176,521	1,176,521	1,176,521
524	Lighting	1	Lighting	LED Screw In Replacing Incandescent	54,739	109,478	164,216	218,955	273,694	328,433	383,171	437,910	492,649	492,649	492,649	492,649	492,649	492,649	492,649	492,649	492,649	492,649	492,649
520	Lighting	2	Lighting	Interior Induction Lighting-ROB	278,527	556,094	834,081	1,112,108	1,390,135	1,668,162	1,946,189	2,224,216	2,502,243	2,780,270	3,058,297	3,336,324	3,614,351	3,892,377	4,170,404	4,448,431	4,448,431	4,448,431	4,698,656
553	Lighting	1	Lighting Controls	Daylight Sensor Controls	816,512	1,633,024	2,449,536	3,266,048	4,082,560	4,899,072	5,715,583	6,532,095	7,348,607	8,165,119	8,981,631	9,798,143	9,798,143	9,798,143	9,798,143	9,798,143	9,798,143	9,798,143	9,798,143
559	Lighting	1	Lighting Controls	Central Lighting Control	551,559	1,103,118	1,654,677	2,206,236	2,757,794	3,309,353	3,860,912	4,412,471	4,964,030	5,515,589	6,067,148	6,618,707	6,618,707	6,618,707	6,618,707	6,618,707	6,618,707	6,618,707	6,618,707
550	Lighting	1	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.1	Lighting	1	Lighting	Interior Induction Lighting-ER	225,515	451,031	676,546	902,062	1,127,577	1,353,092	1,578,608	1,804,123	2,029,639	2,255,154	2,480,670	2,706,185	2,931,700	3,157,216	3,382,731	3,608,247	3,608,247	3,608,247	3,811,210
506	Lighting	1	Lighting	T5 HP replacing T12	446,696	893,392	1,340,089	1,786,785	2,233,481	2,680,177	3,126,873	3,573,569	4,020,266	4,466,962	4,913,658	4,913,658	4,913,658	4,913,658	4,913,658	4,913,658	4,913,658	4,913,658	4,913,658
537	Lighting	1	Lighting	LED Grow Light	476,953	953,906	1,430,860	1,907,813	2,384,766	2,861,719	3,338,672	3,815,626	4,292,579	4,769,532	5,246,485	5,246,485	5,246,485	5,246,485	5,246,485	5,246,485	5,246,485	5,246,485	5,246,485
505	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	169,524	339,047	508,571	678,094	847,618	1,017,141	1,186,665	1,356,188	1,525,712	1,695,235	1,864,759	2,034,282	2,203,806	2,373,329	2,542,853	2,542,853	2,542,853	2,542,853	2,610,662
500	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	136,222	272,445	408,667	544,889	681,112	817,334	953,557	1,089,779	1,226,001	1,362,224	1,498,446	1,498,446	1,498,446	1,498,446	1,498,446	1,498,446	1,498,446	1,498,446	1,498,446
536	Lighting	1	Lighting	LED Tube Lighting	293,504	587,009	880,513	1,174,018	1,467,522	1,761,026	2,054,531	2,348,035	2,641,539	2,935,044	3,228,548	3,522,053	3,815,557	4,109,061	4,402,566	4,696,070	4,989,574	4,989,574	5,341,780
560	Lighting	1	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	355,226	710,452	1,065,678	1,420,904	1,776,130	2,131,356	2,486,583	2,841,809	3,197,035	3,552,261	3,907,487	4,262,713	4,262,713	4,262,713	4,262,713	4,262,713	4,262,713	4,262,713	4,262,713
558	Lighting	1	Lighting Controls	Occupancy Sensor & Daylight Sensor	350,655	701,310	1,051,966	1,402,621	1,753,276	2,103,931	2,454,586	2,805,242	3,155,897	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552	3,506,552
512	Lighting	1	Lighting	LED High Bay Lighting	531,631	1,063,261	1,594,892	2,126,523	2,658,153	3,189,784	3,721,415	4,253,046	4,784,676	5,316,307	5,847,937	6,379,568	6,911,199	7,442,829	7,974,460	8,506,091	8,506,091	8,506,091	8,984,558
508	Lighting	1	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	1	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	1	Lighting Controls	Garage Bi-level Controls	45,933	91,865	137,798	183,731	229,663	275,596	321,529	367,461	413,394	459,327	459,327	459,327	459,327	459,327	459,327	459,327	459,327	459,327	459,327
542	Lighting	1	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	392,573	785,146	1,177,718	1,570,291	1,962,864	2,355,437	2,748,009	3,140,582	3,533,155	3,925,728	4,318,300	4,710,873	5,103,446	5,496,019	5,888,591	6,281,164	6,673,737	7,066,310	7,458,882
546	Lighting	1	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	2	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
549	Lighting	1	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	1	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	1	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	1	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.2	Lighting	1	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	1	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600				Refrigeration																			
614	Process cooli	1	Refrigeration	Floating Head Pressure Control																			
610	Process cooli	1	Refrigeration	H.E. Evaporative Fan Motors																			
625	Process cooli	2	Refrigeration	Door Gaskets - Cooler and Freezer																			
628	Process cooli	2	Refrigeration	ECM case fan motors																			
623	Process cooli	1	Refrigeration	Strip Curtains																			
622	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Freezers																			
630	Process cooli	2	Refrigeration	Automatic High Speed Doors - between freezer and cooler																			
602	Process cooli	1	Refrigeration	Refrigerated Case Covers																			
612	Process cooli	1	Refrigeration	Door Heater Controls																			
611	Process cooli	2	Refrigeration	Zero-Energy Doors																			
624	Process cooli	2	Refrigeration	Efficient Refrigeration Condenser																			
620	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Freezers																			
601	Process cooli	1	Refrigeration	Vending Miser for Soft Drink Vending Machines																			
610	Process cooli	2	Refrigeration	Discus and Scroll Compressors																			
603	Process cooli	1	Refrigeration	Refrigeration Economizer																			
607	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on S-P motors																			
626	Process cooli	2	Refrigeration	Reach-in Refrigerated display case door retrofit																			
621	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators																			
631	Process cooli	2	Refrigeration	Refrigerant charging correction																			
627	Process cooli	2	Refrigeration	Refrigeration Savings due to Lighting Savings																			
619	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators																			
608	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on PSC motors																			
606	Process cooli	2	Refrigeration	Commercial Ice-makers																			
629	Process cooli	2	Refrigeration	Efficient low-temp compressor																			
609	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on ECM motors																			

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Cumulative Energy Savings (kWh)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
700				Compressed Air																			
800				Space Heating																			
363	Space Heating	1	Space Cooling - Chillers	Commercial EMS	85,955	171,910	257,865	343,820	429,775	515,731	601,686	687,641	773,596	859,551	945,506	1,031,461	1,117,416	1,203,371	1,289,326	1,289,326	1,289,326	1,289,326	1,323,708
368	Space Heating	1	Space Cooling - Chillers	Setback with Electric Heat	37,921	75,843	113,764	151,685	189,607	227,528	265,449	303,371	341,292	341,292	341,292	341,292	341,292	341,292	341,292	341,292	341,292	341,292	341,292
302	Space Heating	2	Envelope	Energy Efficient Windows-ROB	67,846	135,692	203,538	271,383	339,229	407,075	474,921	542,767	610,613	678,458	746,304	814,150	881,996	949,842	1,017,688	1,085,533	1,153,379	1,221,225	1,289,071
370	Space Heating	1	Space Cooling - Chillers	Web Enabled EMS	82,425	164,851	247,276	329,701	412,126	494,552	576,977	659,402	741,827	824,253	906,678	989,103	1,071,528	1,153,954	1,236,379	1,236,379	1,236,379	1,236,379	1,269,349
364	Space Heating	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	3,681	7,362	11,042	14,723	18,404	22,085	25,766	29,447	33,127	36,808	40,489	44,170	47,851	51,531	55,212	58,893	62,574	66,255	69,936
306	Space Heating	1	Space Cooling - Chillers	Wall Insulation	11,736	23,471	35,207	46,943	58,678	70,414	82,150	93,885	105,621	117,357	129,093	140,828	152,564	164,300	176,035	187,771	199,507	211,242	222,978
806	Space Heating	1	Space Heating	VFD Pump	19,750	39,500	59,251	79,001	98,751	118,501	138,251	158,002	177,752	197,502	217,252	237,002	256,753	276,503	296,253	296,253	296,253	296,253	304,153
301	Space Heating	1	Space Cooling - Chillers	Integrated Building Design	359,953	719,906	1,079,859	1,439,812	1,799,765	2,159,718	2,519,671	2,879,624	3,239,577	3,599,530	3,959,483	4,319,436	4,679,389	5,039,342	5,399,295	5,759,248	6,119,201	6,479,154	6,839,107
371	Space Heating	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	1	Envelope	Energy Efficient Windows-Early Replacement	43,440	86,880	130,321	173,761	217,201	260,641	304,082	347,522	390,962	434,402	477,843	521,283	564,723	608,163	651,604	695,044	738,484	781,924	825,365
369	Space Heating	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	4,462	8,924	13,386	17,848	22,310	26,772	31,234	35,696	40,158	44,620	49,082	53,544	58,007	62,469	66,931	66,931	66,931	66,931	68,715
304	Space Heating	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	2	Space Heating	Ground Source Heat Pump - Heating-ROB	110,241	220,483	330,724	440,965	551,206	661,448	771,689	881,930	992,171	1,102,413	1,212,654	1,322,895	1,433,136	1,543,378	1,653,619	1,653,619	1,653,619	1,653,619	1,697,715
307	Space Heating	1	Space Cooling - Chillers	Roof Insulation	1,741	3,482	5,223	6,964	8,704	10,445	12,186	13,927	15,668	17,409	19,150	20,891	22,631	24,372	26,113	27,854	29,595	31,336	33,077
805	Space Heating	2	Space Heating	Water Loop Heat Pump (WLHP) - Heating	3,391	6,782	10,173	13,564	16,955	20,346	23,737	27,128	30,519	33,910	37,301	40,693	44,084	47,475	50,866	50,866	50,866	50,866	52,222
332	Space Heating	1	Ventilation	Destratification Fan (HVLS)	98,055	196,109	294,164	392,218	490,273	588,327	686,382	784,436	882,491	980,546	1,078,600	1,176,655	1,274,709	1,372,764	1,470,818	1,470,818	1,470,818	1,470,818	1,510,040
321	Space Heating	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	1	Space Cooling - Chillers	Window Improvements	329	657	986	1,314	1,643	1,971	2,300	2,628	2,957	3,285	3,614	3,942	4,271	4,600	4,928	4,928	4,928	4,928	5,059
362	Space Heating	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	1	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	2	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	1	Space Heating	Ground Source Heat Pump - Heating-ER	40,942	81,883	122,825	163,767	204,709	245,650	286,592	327,534	368,475	409,417	450,359	491,300	532,242	573,184	614,126	614,126	614,126	614,126	630,502
366	Space Heating	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	2	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	1	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	1	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	1	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900				Other																			
913	Other	1	Other	Engine Block Heater Timer	9,084	18,168	27,252	36,336	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420	45,420
911	Other	1	Other	Parking Garage Exhaust Fan CO Control	11,282	22,565	33,847	45,130	56,412	67,695	78,977	90,259	101,542	112,824	124,107	135,389	146,672	157,954	169,236	169,236	169,236	169,236	173,749
903	Other	2	Other	NEMA Premium Transformer, three-phase-ROB	1,280	2,559	3,839	5,118	6,398	7,677	8,957	10,236	11,516	12,795	14,075	15,354	16,634	17,914	19,193	20,473	21,752	23,032	24,311
909	Other	2	Other	High Efficiency Transformer, three-phase-ROB	1,349	2,698	4,047	5,396	6,745	8,094	9,443	10,792	12,140	13,489	14,838	16,187	17,536	18,885	20,234	21,583	22,932	24,281	25,630
901	Other	2	Other	High Efficiency Transformer, single-phase-ROB	1,359	2,718	4,077	5,436	6,795	8,154	9,513	10,872	12,231	13,590	14,950	16,309	17,668	19,027	20,386	21,745	23,104	24,463	25,822
902	Other	2	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	1	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	1	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	1	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	1	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	1	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000				Machine Drive																			
1022	Machine Drive	1	Machine Drive	Air-Entraining Air Nozzles	312,542	625,083	937,625	1,250,167	1,562,709	1,875,250	2,187,792	2,500,334	2,812,875	3,125,417	3,437,959	3,750,501	4,063,042	4,375,584	4,688,126	4,688,126	4,688,126	4,688,126	4,813,142
1006	Machine Drive	1	Machine Drive	Advanced Lubricants	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264	3,784,264
1010	Machine Drive	1	Machine Drive	Compressed Air System Management	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654	5,672,654
1018	Machine Drive	1	Machine Drive	Storage Tank Addition (comp air)	160,064	320,128	480,192	640,256	800,320	960,385	1,120,449	1,280,513	1,440,577	1,600,641	1,760,705	1,920,769	2,080,833	2,240,897	2,400,961	2,561,025	2,721,089	2,881,154	3,041,218
1023	Machine Drive	2	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	208,879	417,758	626,638	835,517	1,044,396	1,253,275	1,462,154	1,671,033	1,879,913	2,088,792	2,297,671	2,506,550	2,715,429	2,924,308	3,133,188	3,133,188	3,133,188	3,133,188	3,216,739
1029	Machine Drive	2	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	1,384,220	2,768,440	4,152,660	5,536,880	6,921,100	8,305,321	9,689,541	11,073,761	12,457,981	13,842,201	15,226,421	16,610,641	17,994,861	19,379,081	20,763,301	20,763,301	20,763,301	20,763,301	21,316,990
1019	Machine Drive	2	Machine Drive	High Efficiency Dryers (comp air) - ROB	168,577	337,154	505,731	674,308	842,885	1,011,462	1,180,040	1,348,617	1,517,194	1,685,771	1,854,348	2,022,925	2,191,502	2,360,079	2,528,656	2,528,656	2,528,656	2,528,656	2,596,087
1030	Machine Drive	1	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	1,619,484	3,238,968	4,858,452	6,477,936	8,097,420	9,716,904	11,336,388	12,955,872	14,575,356	16,194,840	17,814,324	19,433,808	21,053,292	22,672,776	24,292,261	24,292,261	24,292,261	24,292,261	24,940,054
1016	Machine Drive	1	Machine Drive	Elec motors replacing pneumatic (comp air)	555,087	1,110,174	1,665,260	2,220,347	2,775,434	3,330,521	3,885,608	4,440,694	4,995,781	5,550,868	6,105,955	6,661,042	7,216,128	7,771,215	8,326,302	8,326,302	8,326,302	8,326,302	8,548,337
1008	Machine Drive	1	Machine Drive	Pump System Efficiency Improvements	1,282,670	2,565,340	3,848,010	5,130,680	6,413,350	7,696,020	8,978,690	10,261,360	11,544,030	12,826,700	14,109,370	15,392,040	16,674,710	17,957,380	19,240,050	19,240,050	19,240,050	19,240,050	19,753,118
1015	Machine Drive	1	Machine Drive	Compressed Air Audits and Leak Repair	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422	9,543,422
1025	Machine Drive	1	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	208,472	416,944	625,415	833,887	1,042,359	1,250,831	1,459,303	1,667,775	1,876,246	2,084,718	2,293,190	2,501,662	2,710,134	2,918,605	3,127,077	3,127,077	3,127,077	3,127,077	3,210,466
1007	Machine Drive	1	Machine Drive	Motor System Optimization (Including ASD)	4,061,462	8,122,925	########	########	########	########	28,430,236	32,491,698	36,553,160	40,614,623	44,676,085	48,737,547	52,799,009	56,860,472	60,921,934	60,921,934	60,921,934	60,921,934	62,546,519
1003	Machine Drive	1	Machine Drive	Electric Supply System Improvements	920,008	1,840,016	2,760,024	3,680,032	4,600,039	5,520,047	6,440,055	7,360,063	8,280,071	9,200,079	10,120,087	11,040,095	11,960,103	12,880,110	13,800,118	13,800,118	13,800,118	13,800,118	14,168,121
1014	Machine Drive	2	Machine Drive	High Efficiency Pumps - ROB	480,034	960,069	1,440,103	1,920,137	2,400,171	2,880,206	3,360,240	3,840,274	4,320,308	4,800,343	5,280,377	5,760,411	6,240,446	6,720,480	7,200,514	7,200,514	7,200,514	7,200,514	7,392,528
1028	Machine Drive	1	Machine Drive	Synchronous belt drives	2,871,035	5,742,069	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104	8,613,104
1024	Machine Drive	1	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	177,452	354,905	532,357	709,809	887,261	1,064,714	1,242,166	1,419,618	1,597,070	1,774,523	1,951,975	2,129,427	2,306,879	2,484,332	2,661,784	2,661,784	2,661,784	2,661,784	2,732,765
1001	Machine Drive	1	Machine Drive	Sensors & Controls	345,093	690,186	1,035,280	1,380,373	1,725,466	2,070,559	2,415,652	2,760,745	3,105,839	3,450,932	3,796,025	4,141,118	4,486,211	4,831,305	5,176,398	5,176,398	5,176,398	5,176,398	5,314,435
1013	Machine Drive	1	Machine Drive	VFD for Process Pumps	2,065,739	4,131,478	6,197,217	8,262,955	########	########	14,460,172	16,525,911	18,591,650	20,657,389	22,723,127	24,788,866	26,854,605	28,920,344	30,986,083	30,986,083	30,986,083	30,986,083	31,812,378
1012	Machine Drive	1	Machine Drive	VFD for Process Fans	582,525	1,165,050	1,747,575	2,330,100	2,912,625	3,495,150	4,077,675	4,660,200	5,242,725	5,825,250	6,407,775	6,990,300	7,572,825	8,155,350	8,737,875	8,737,875	8,737,875	8,737,875	8,970,885
1005	Machine Drive	1	Machine Drive	Industrial Motor Management	474,483	948,966	1,423,449	1,897,932	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416	2,372,416
1027	Machine Drive	1	Machine Drive	Receiver Capacity Addition	198,319	396,638	594,958	793,277	991,596	1,189,915	1,388,234	1,586,553	1,784,873	1,983,192	1,983,192	1,983,192	1,983,192	1,983,192	1,983,192	1,983,192	1,983,192	1,983,192	1,983,192
1009	Machine Drive	1	Machine Drive	Fan System Improvements	102,058	204,116	306,175	408,233	510,291	612,349	714,407	816,466	918,524	1,020,582	1,122,640	1,224,699	1,326,757	1,428,815	1,530,873	1,530,873	1,530,873	1,530,873	1,571,696
1021	Machine Drive	1	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	191,306	382,611	573,917	765,222	956,528	1,147,833	1,339,139	1,530,444	1,721,750	1,913,055	2,104,361	2,295,667	2,486,972	2,678,278	2,869,583	2,869,583	2,869,583	2,869,583	2,946,105
1026	Machine Drive	1	Machine Drive	High Efficiency Pumps - Early Replacement	488,076	976,152	1,464,228	1,952,304	2,440,380	2,928,456	3,416,533	3,904,609	4,392,685	4,880,761	5,368,837	5,856,913	6,344,989	6,833,065	7,321,141	7,321,141	7,321,141	7,321,141	7,516,372
1017	Machine Drive	1	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	106,311	212,622	318,933	425,245	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556	531,556
1031	Machine Drive	1	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	463,775	927,550	1,391,325	1,855,100	2,318,875	2,782,650	3,246,425	3,710,200	4,173,975	4,637,750	5,101,525	5,565,300	6,029,075	6,492,850	6,956,625	6,956,625	6,956,625	6,956,625	7,142,135
1011	Machine Drive	1	Machine Drive	Compressed Air - Advanced Compressor Controls	131,401	262,802	394,203	525,604	657,006	788,407	919,808	1,051,209	1,182,610	1,314,011	1,445,412	1,576,813	1,708,214	1,839,615	1,971,017	1,971,017	1,971,017	1,971,017	2,023,577
1002	Machine Drive	1	Machine Drive	Energy Information System	97,001	194,003	291,004	388,005	485,006	582,008	679,009	776,010	873,012	970,013	1,067,014	1,164,015	1,261,017	1,358,018	1,455,019	1,455,019	1,455,019	1,455,019	1,493,820
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

					Cumulative Energy Savings (kWh)																		
#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
1040		1		Process Cooling & Refrigeration																			
1048	Process Cooli	2	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	106,322	212,644	318,966	425,288	531,609	637,931	744,253	850,575	956,897	1,063,219	1,169,541	1,275,863	1,382,185	1,488,507	1,594,828	1,594,828	1,594,828	1,594,828	1,637,357
1049	Process Cooli	1	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	127,711	255,423	383,134	510,846	638,557	766,269	893,980	1,021,692	1,149,403	1,277,114	1,404,826	1,532,537	1,660,249	1,787,960	1,915,672	1,915,672	1,915,672	1,915,672	1,966,756
1046	Process Cooli	1	Process Cooling & Refrig	Floating Head Pressure Control	188,119	376,238	564,357	752,476	940,595	1,128,714	1,316,833	1,504,952	1,693,071	1,881,190	2,069,308	2,257,427	2,445,546	2,633,665	2,821,784	2,821,784	2,821,784	2,821,784	2,897,032
1043	Process Cooli	1	Process Cooling & Refrig	Electric Supply System Improvements	183,040	366,079	549,119	732,159	915,199	1,098,238	1,281,278	1,464,318	1,647,358	1,830,397	2,013,437	2,196,477	2,379,517	2,562,556	2,745,596	2,745,596	2,745,596	2,745,596	2,818,812
1041	Process Cooli	1	Process Cooling & Refrig	Sensors & Controls	152,739	305,477	458,216	610,955	763,694	916,432	1,069,171	1,221,910	1,374,649	1,527,387	1,680,126	1,832,865	1,985,604	2,138,342	2,291,081	2,291,081	2,291,081	2,291,081	2,352,177
1044	Process Cooli	1	Process Cooling & Refrig	Improved Refrigeration	579,912	1,159,825	1,739,737	2,319,650	2,899,562	3,479,474	4,059,387	4,639,299	5,219,212	5,799,124	6,379,036	6,958,949	7,538,861	8,118,774	8,698,686	8,698,686	8,698,686	8,698,686	8,930,651
1047	Process Cooli	1	Process Cooling & Refrig	Refrigerant charging correction	791,580	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161	1,583,161
1042	Process Cooli	1	Process Cooling & Refrig	Energy Information System	43,185	86,370	129,555	172,740	215,926	259,111	302,296	345,481	388,666	431,851	475,036	518,221	561,406	604,592	647,777	647,777	647,777	647,777	665,051
1045	Process Cooli	1	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050		1		Process Heating																			
1053	Process Heati	1	Process Heating	Electric Supply System Improvements	344,947	689,893	1,034,840	1,379,786	1,724,733	2,069,679	2,414,626	2,759,572	3,104,519	3,449,465	3,794,412	4,139,358	4,484,305	4,829,251	5,174,198	5,174,198	5,174,198	5,174,198	5,312,176
1051	Process Heati	1	Process Heating	Sensors & Controls	293,377	586,753	880,130	1,173,506	1,466,883	1,760,259	2,053,636	2,347,012	2,640,389	2,933,765	3,227,142	3,520,518	3,813,895	4,107,271	4,400,648	4,400,648	4,400,648	4,400,648	4,517,998
1054	Process Heati	1	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	158,995	317,990	476,985	635,981	794,976	953,971	1,112,966	1,271,961	1,430,956	1,589,951	1,589,951	1,589,951	1,589,951	1,589,951	1,589,951	1,589,951	1,589,951	1,589,951	1,589,951
1052	Process Heati	1	Process Heating	Energy Information System	108,283	216,567	324,850	433,133	541,416	649,700	757,983	866,266	974,550	1,082,833	1,191,116	1,299,400	1,407,683	1,515,966	1,624,249	1,624,249	1,624,249	1,624,249	1,667,563
1060		2		Industrial Other																			
1063	Industrial Othe	1	Industrial Other	Barrel Insulation - Inj. Molding (plastics)	4,133	8,265	12,398	16,530	20,663	24,796	28,928	33,061	37,194	41,326	41,326	41,326	41,326	41,326	41,326	41,326	41,326	41,326	41,326
1066	Industrial Othe	2	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	18,732	37,465	56,197	74,929	93,662	112,394	131,126	149,858	168,591	187,323	206,055	224,788	243,520	262,252	280,985	299,717	318,449	337,181	355,914
1062	Industrial Othe	2	Industrial Other	3 Phase High Eff Battery Charger - ROB	2,136	4,273	6,409	8,545	10,681	12,818	14,954	17,090	19,226	21,363	23,499	25,635	27,771	29,908	32,044	34,180	36,316	38,453	40,589
1068	Industrial Othe	2	Industrial Other	Hybrid Injection Molding Machine - ROB	6,108	12,217	18,325	24,433	30,541	36,650	42,758	48,866	54,975	61,083	67,191	73,300	79,408	85,516	91,624	97,733	103,841	109,949	116,058
1061	Industrial Othe	2	Industrial Other	High Efficiency Welders - ROB	693	1,385	2,078	2,770	3,463	4,155	4,848	5,541	6,233	6,926	7,618	8,311	9,003	9,696	10,389	11,081	11,774	12,466	13,159
1076	Industrial Othe	1	Industrial Other	On-Demand ventilation control for Dust and Fume Collection Systems	5,179	10,359	15,538	20,717	25,897	31,076	36,255	41,435	46,614	51,794	56,973	62,152	67,332	72,511	77,690	77,690	77,690	77,690	79,762
1064	Industrial Othe	1	Industrial Other	Pellet Dryer Insulation (plastics)	3,038	6,076	9,114	12,152	15,190	18,228	21,266	24,304	27,342	30,380	30,380	30,380	30,380	30,380	30,380	30,380	30,380	30,380	30,380
1075	Industrial Othe	1	Industrial Other	Industrial Air Curtain	21,117	42,235	63,352	84,470	105,587	126,705	147,822	168,940	190,057	211,174	232,292	253,409	274,527	295,644	316,762	316,762	316,762	316,762	325,209
1067	Industrial Othe	1	Industrial Other	Lab Fume Hood Ventilation Reduction	1,792	3,584	5,377	7,169	8,961	10,753	12,546	14,338	16,130	17,922	19,714	21,507	23,299	25,091	26,883	26,883	26,883	26,883	27,600
1071	Industrial Othe	1	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	3,519	7,038	10,557	14,076	17,595	21,115	24,634	28,153	31,672	35,191	38,710	42,229	45,748	49,267	52,786	56,305	59,824	63,344	66,863
1070	Industrial Othe	1	Industrial Other	3 Phase High Eff Battery Charger - Early Replacement	2,256	4,512	6,768	9,024	11,280	13,536	15,792	18,049	20,305	22,561	24,817	27,073	29,329	31,585	33,841	33,841	33,841	33,841	34,743
1065	Industrial Othe	1	Industrial Other	Injection Molding Machine - efficient (plastics)	4,132	8,265	12,397	16,530	20,662	24,794	28,927	33,059	37,191	41,324	45,456	49,589	53,721	57,853	61,986	66,118	70,251	74,383	78,515
1072	Industrial Othe	1	Industrial Other	High Efficiency Welders - Early Replacement	642	1,285	1,927	2,569	3,211	3,854	4,496	5,138	5,780	6,423	7,065	7,707	8,349	8,992	9,634	10,276	10,919	11,561	12,203
1073	Industrial Othe	1	Industrial Other	High Speed Turbo Blower for Wastewater	382	765	1,147	1,529	1,911	2,294	2,676	3,058	3,440	3,823	4,205	4,587	4,970	5,352	5,734	6,116	6,499	6,881	7,263
1074	Industrial Othe	1	Industrial Other	Hybrid Injection Molding Machine - Early Replacement	4,383	8,766	13,149	17,532	21,914	26,297	30,680	35,063	39,446	43,829	48,212	52,595	56,977	61,360	65,743	70,126	74,509	78,892	83,275
1069	Industrial Othe	1	Industrial Other	Process Fan Ventilation Reduction	6,141	12,282	18,422	24,563	30,704	36,845	42,986	49,126	55,267	61,408	67,549	73,689	79,830	85,971	92,112	92,112	92,112	92,112	94,568
1080		1		Agriculture																			
1093	Agricultural	1	Agriculture	Fan Thermostat Controller	120,487	240,974	361,460	481,947	602,434	722,921	843,407	963,894	1,084,381	1,204,868	1,325,354	1,445,841	1,566,328	1,686,815	1,807,302	1,807,302	1,807,302	1,807,302	1,855,496
1081	Agricultural	2	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	21,304	42,608	63,912	85,217	106,521	127,825	149,129	170,433	191,737	213,041	234,346	255,650	276,954	298,258	319,562	319,562	319,562	319,562	328,084
1086	Agricultural	1	Agriculture	Milk Pre-Cooler Heat Exchanger	118,289	236,577	354,866	473,155	591,443	709,732	828,021	946,309	1,064,598	1,182,887	1,301,175	1,419,464	1,537,753	1,656,041	1,774,330	1,774,330	1,774,330	1,774,330	1,821,646
1092	Agricultural	1	Agriculture	Low Pressure Sprinkler Nozzles	44,477	88,953	133,430	177,906	222,383	266,859	311,336	355,812	400,289	444,765	489,242	533,718	578,195	622,672	667,148	667,148	667,148	667,148	684,939
1088	Agricultural	1	Agriculture	VFD for Process Fans - Agriculture	70,291	140,582	210,874	281,165	351,456	421,747	492,039	562,330	632,621	702,912	773,204	843,495	913,786	984,077	1,054,369	1,054,369	1,054,369	1,054,369	1,082,485
1091	Agricultural	1	Agriculture	Grain Storage Temperature and Moisture Management Controller	50,427	100,853	151,280	201,706	252,133	302,559	352,986	403,412	453,839	504,265	554,692	605,119	655,545	705,972	756,398	756,398	756,398	756,398	776,569
1089	Agricultural	1	Agriculture	VFD for Process Pumps - Agriculture	127,760	255,519	383,279	511,038	638,798	766,557	894,317	1,022,076	1,149,836	1,277,595	1,405,355	1,533,115	1,660,874	1,788,634	1,916,393	1,916,393	1,916,393	1,916,393	1,967,497
1094	Agricultural	2	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	17,053	34,105	51,158	68,210	85,263	102,315	119,368	136,420	153,473	170,526	187,578	204,631	221,683	238,736	255,788	255,788	255,788	255,788	262,609
1087	Agricultural	1	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	57,991	115,982	173,973	231,964	289,955	347,946	405,937	463,928	521,919	579,910	579,910	579,910	579,910	579,910	579,910	579,910	579,910	579,910	579,910
1095	Agricultural	1	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	27,150	54,299	81,449	108,598	135,748	162,897	190,047	217,196	244,346	271,496	298,645	325,795	352,944	380,094	407,243	407,243	407,243	407,243	418,103
1083	Agricultural	1	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	1	Agriculture	VFD for Process Pumps - Irrigation	159,807	319,613	479,420	639,227	799,033	958,840	1,118,647	1,278,453	1,438,260	1,598,066	1,598,066	1,598,066	1,598,066	1,598,066	1,598,066	1,598,066	1,598,066	1,598,066	1,598,066
1082	Agricultural	1	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	1	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	1	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Totals (*1000)	56791.4404	94,583	131,582	165,682	199,233	232,068	264,903	297,737	330,556	363,040	394,080	423,712	450,642	477,571	504,500	509,769	513,841	517,620	531,491

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Annual KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
102	Computers & O	2	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
104	Computers & O	1	Office Equipment	PC Network Energy Management Controls replacing no central control	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
107	Computers & O	2	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
109	Computers & O	1	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
111	Computers & O	1	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	Computers & O	2	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers & O	1	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers & O	1	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers & O	2	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers & O	1	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150				Water Heating																			
165	Water Heating	1	Water Heating	Low Flow Faucet Aerator	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
168	Water Heating	1	Water Heating	Tank Insulation (electric)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
171	Water Heating	1	Water Heating	Process Cooling Condenser Heat Recovery	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
151	Water Heating	2	Water Heating	Heat Pump Water Heater-ROB	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
153	Water Heating	2	Water Heating	Efficient Hot Water Pump-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
164	Water Heating	1	Water Heating	HVAC Condenser Heater Recovery Water Heating	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176	Water Heating	1	Water Heating	Heat Pump Water Heater-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	Water Heating	1	Water Heating	Efficient Hot Water Pump-Early Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
167	Water Heating	1	Water Heating	Hot Water (DHW) Pipe Insulation	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
166	Water Heating	1	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	2	Water Heating	Heat Pump Storage Water Heating-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
170	Water Heating	1	Water Heating	ECM Circulator Pump	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
152	Water Heating	2	Water Heating	Electric Tankless Water Heater-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	Water Heating	1	Water Heating	Drain Water Heat Recovery Water Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	Water Heating	1	Water Heating	Heat Pump Storage Water Heating-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	Water Heating	1	Water Heating	Electric Tankless Water Heater-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300				Building Envelope																			
302	Other	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Other	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Other	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Other	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Other	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Other	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Other	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Other	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Other	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Other	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320				Ventilation																			
322	Ventilation	1	Ventilation	Variable Speed Drive Control, 15 HP	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
323	Ventilation	1	Ventilation	Variable Speed Drive Control, 5 HP	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
324	Ventilation	1	Ventilation	Variable Speed Drive Control, 40 HP	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
333	Ventilation	1	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	1	Ventilation	Destratification Fan (HVLS)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
321	Ventilation	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	1	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	1	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340				Space Cooling - Chillers																			
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	35	35	35	35	35	35	36	35	35	35	35	35	36	35	35	35	35	36	35
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	16	16	15	16	16	16	16	16	15	16	15	16	16	15	16	16	15	16	16
302	Space coolers	2	Envelope	Energy Efficient Windows-ROB	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	2	2	1	2	2	2	2	2	1	2	1	2	2	1	2	2	1	2	2
350	Space coolers	1	Space Cooling - Chillers	Chiller Tune Up	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
351	Space coolers	1	Space Cooling - Chillers	Efficient Chilled Water Pump	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
306	Space coolers	1	Space Cooling - Chillers	Wall Insulation	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
347	Space coolers	1	Space Cooling - Chillers	Chilled Hot Water Reset	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
343	Space coolers	1	Space Cooling - Chillers	Water Side Economizer	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
345	Space coolers	2	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
348	Space coolers	2	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
344	Space coolers	1	Space Cooling - Chillers	VAV System Conversion	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
301	Space coolers	1	Space Cooling - Chillers	Integrated Building Design	143	142	141	141	141	143	144	142	141	141	141	143	144	141	141	141	141	143	142
346	Space coolers	1	Space Cooling - Chillers	Motor Belt Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	2	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	36	36	36	36	36	36	37	36	36	36	36	36	37	36	36	36	36	37	36
342	Space coolers	2	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	37	37	36	37	37	37	37	37	36	37	36	37	37	36	37	37	36	37	37
309	Space coolers	1	Envelope	Energy Efficient Windows-Early Replacement	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
304	Space coolers	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	2	Space Cooling - Chillers	High Efficiency Pumps-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
354	Space coolers	1	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
307	Space coolers	1	Space Cooling - Chillers	Roof Insulation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
356	Space coolers	1	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	2	2	2	2	2	2	3	2	2	2	2	2	3	2	2	2	2	3	2
357	Space coolers	1	Space Cooling - Chillers	High Efficiency Pumps-ER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
353	Space coolers	1	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
355	Space coolers	1	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
321	Space coolers	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
366	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Annual KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
360				HVAC Controls																			
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
389				Space Cooling (Unitary and Split AC																			
363	Space Cooling	1	Space Cooling - Chillers	Commercial EMS	335	333	331	332	332	335	337	333	331	332	331	335	337	331	332	332	331	337	333
368	Space Cooling	1	Space Cooling - Chillers	Setback with Electric Heat	148	147	146	147	147	148	149	147	146	147	146	148	149	146	147	147	146	149	147
302	Space Cooling	2	Envelope	Energy Efficient Windows-ROB	264	263	261	262	262	264	266	263	261	262	261	264	266	261	262	262	261	266	263
370	Space Cooling	1	Space Cooling - Chillers	Web Enabled EMS	321	320	317	319	319	321	323	320	317	319	317	321	323	317	319	319	317	323	320
364	Space Cooling	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
306	Space Cooling	1	Space Cooling - Chillers	Wall Insulation	46	46	45	45	45	46	46	46	45	45	45	46	46	45	45	45	45	46	46
301	Space Cooling	1	Space Cooling - Chillers	Integrated Building Design	1,420	1,414	1,402	1,409	1,409	1,420	1,429	1,414	1,402	1,409	1,403	1,420	1,429	1,402	1,409	1,409	1,403	1,429	1,414
371	Space Cooling	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Cooling	1	Envelope	Energy Efficient Windows-Early Replacement	198	197	196	197	197	198	199	197	196	197	196	198	199	196	197	197	196	199	197
391	Space Cooling	1	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	27	26	26	26	26	27	27	26	26	26	26	27	27	26	26	26	26	27	26
369	Space Cooling	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	17	17	17	17	17	17	18	17	17	17	17	17	18	17	17	17	17	18	17
387	Space Cooling	2	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
304	Space Cooling	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
392	Space Cooling	2	Space Cooling - Unitary and Split AC	Room AC-ROB	25	25	24	25	25	25	25	25	24	25	24	25	25	24	25	25	24	25	25
307	Space Cooling	1	Space Cooling - Chillers	Roof Insulation	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
398	Space Cooling	1	Space Cooling - Unitary and Split AC	Room AC-ER	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
321	Space Cooling	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Cooling	1	Space Cooling - Chillers	Window Improvements	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
362	Space Cooling	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space Cooling	2	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	55	55	55	55	55	55	56	55	55	55	55	55	56	55	55	55	55	56	55
384	Space Cooling	2	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space Cooling	2	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space Cooling	1	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Cooling	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Cooling	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Cooling	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space Cooling	2	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	114	114	113	113	113	114	115	114	113	113	113	114	115	113	113	113	113	115	114
393	Space Cooling	1	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space Cooling	1	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space Cooling	1	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
398	Space Cooling	1	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Cooling	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400				Cooking																			
506				Lighting																			
555	Lighting	2	Lighting Controls	Lighting Power Density - Parking Garage-ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
564	Lighting	1	Lighting Controls	Lighting Power Density - Parking Garage-ER	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
554	Lighting	2	Lighting Controls	Lighting Power Density- Exterior-ROB	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
563	Lighting	1	Lighting Controls	Lighting Power Density- Exterior-ER	18	18	19	18	18	18	18	18	19	18	18	18	18	18	18	18	18	18	18
561	Lighting	1	Lighting Controls	Lighting Power Density - Interior	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
513	Lighting	1	Lighting	LED Low Bay Lighting	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
517	Lighting	1	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
515	Lighting	1	Lighting	High Intensity Fluorescent Fixture (replacing HID)	134	134	135	135	134	134	134	135	135	134	134	134	134	134	135	134	134	134	135
509	Lighting	1	Lighting	LED Exit Sign	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
528	Lighting	1	Lighting	LED Downlight	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
501	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
556	Lighting	1	Lighting Controls	Stairwell Bi-Level Control	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
562	Lighting	1	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	1	Lighting Controls	Occupancy Sensor	67	67	67	67	67	66	67	67	67	66	66	67	67	67	67	67	66	66	67
503	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	48	48	49	48	48	48	48	48	49	48	48	48	48	48	48	48	48	48	48
548	Lighting	1	Lighting	LED Specialty replacing incandescent	24	24	24	24	23	23	24	24	24	23	23	24	24	24	24	23	23	23	24
551	Lighting	1	Lighting Controls	Exterior Bi-level Controls	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
524	Lighting	1	Lighting	LED Screw In Replacing Incandescent	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
526	Lighting	2	Lighting	Interior Induction Lighting-ROB	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
553	Lighting	1	Lighting Controls	Daylight Sensor Controls	155	155	156	156	155	155	155	156	156	155	155	155	155	155	156	155	155	155	156
559	Lighting	1	Lighting Controls	Central Lighting Control	105	105	105	105	105	104	105	105	105	105	104	105	105	105	105	105	104	105	105
550	Lighting	1	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550 1	Lighting	1	Lighting	Interior Induction Lighting-ER	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
506	Lighting	1	Lighting	T5 HP replacing T12	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
537	Lighting	1	Lighting	LED Grow Light	91	91	91	91	91	90	91	91	91	90	90	91	91	91	91	91	90	90	91
505	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
502	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
536	Lighting	1	Lighting	LED Tube Lighting	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
560	Lighting	1	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	67	67	68	68	67	67	68	68	68	67	67	67	68	68	68	67	67	67	68
558	Lighting	1	Lighting Controls	Occupancy Sensor & Daylight Sensor	67	67	67	67	67	66	67	67	67	66	66	67	67	67	67	67	66	66	67
512	Lighting	1	Lighting	LED High Bay Lighting	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
508	Lighting	1	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	1	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	1	Lighting Controls	Garage Bi-level Controls	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
542	Lighting	1	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	75	75	75	75	74	74	75	75	75	74	74	75	75	75	75	74	74	74	75
545	Lighting	1	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	2	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
549	Lighting	1	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	1	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	1	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
518	Lighting	1	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550 2	Lighting	1	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	1	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600				Refrigeration																			
614	Process cooli	1	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process cooli	2	Refrigeration	H.E. Evaporator Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process cooli	2	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process cooli	2	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process cooli	1	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process cooli	2	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process cooli	1	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process cooli	1	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process cooli	2	Refrigeration	Zero Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process cooli	2	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process cooli	1	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process cooli	2	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process cooli	1	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process cooli	2	Refrigeration	Reach-in Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process cooli	2	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process cooli	2	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process cooli	2	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process cooli	2	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Annual KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
700				Compressed Air																			
800				Space Heating																			
363	Space Heating	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space Heating	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
302	Space Heating	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space Heating	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space Heating	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space Heating	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	Space Heating	1	Space Heating	VFD Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space Heating	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space Heating	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
369	Space Heating	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Space Heating	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	2	Space Heating	Ground Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Space Heating	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	Space Heating	2	Space Heating	Water Loop Heat Pump (WLHP) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Space Heating	1	Ventilation	Destratification Fan (HVLS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
321	Space Heating	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space Heating	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	1	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	2	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	1	Space Heating	Ground Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Heating	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	2	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	1	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	1	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	1	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900				Other																			
913	Other	1	Other	Engine Block Heater Timer	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
911	Other	1	Other	Parking Garage Exhaust Fan CO Control	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
903	Other	2	Other	NEMA Premium Transformer, three-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
909	Other	2	Other	High Efficiency Transformer, three-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
901	Other	2	Other	High Efficiency Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
902	Other	2	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	1	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	1	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	1	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	1	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	1	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000				Machine Drive																			
1022	Machine Drive	1	Machine Drive	Air-Entraining Air Nozzles	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
1006	Machine Drive	1	Machine Drive	Advanced Lubricants	522	521	522	522	522	521	522	522	522	521	522	522	522	521	522	522	522	521	522
1010	Machine Drive	1	Machine Drive	Compressed Air System Management	783	781	783	783	783	781	783	783	783	781	783	783	783	781	783	783	783	781	783
1018	Machine Drive	1	Machine Drive	Storage Tank Addition (comp air)	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
1023	Machine Drive	2	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
1029	Machine Drive	2	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191	191
1019	Machine Drive	2	Machine Drive	High Efficiency Dryers (comp air) - ROB	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
1030	Machine Drive	1	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	224	223	224	224	224	223	224	224	224	223	224	224	224	223	224	224	224	223	224
1016	Machine Drive	1	Machine Drive	Elec motors replacing pneumatic (comp air)	77	76	77	77	77	76	77	77	77	76	77	77	77	76	77	77	77	76	77
1008	Machine Drive	1	Machine Drive	Pump System Efficiency Improvements	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177
1015	Machine Drive	1	Machine Drive	Compressed Air Audits and Leak Repair	1,317	1,314	1,317	1,318	1,317	1,314	1,317	1,317	1,317	1,314	1,317	1,317	1,317	1,314	1,318	1,317	1,317	1,314	1,317
1025	Machine Drive	1	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
1007	Machine Drive	1	Machine Drive	Motor System Optimization (Including ASD)	561	559	561	561	561	559	561	561	561	559	561	561	561	559	561	561	561	559	561
1003	Machine Drive	1	Machine Drive	Electric Supply System Improvements	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127
1014	Machine Drive	2	Machine Drive	High Efficiency Pumps - ROB	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
1028	Machine Drive	1	Machine Drive	Synchronous belt drives	396	395	396	396	396	395	396	396	396	395	396	396	396	395	396	396	396	395	396
1024	Machine Drive	1	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
1001	Machine Drive	1	Machine Drive	Sensors & Controls	48	48	48	48	48	48	48	48	48	48	48	48	48	47	48	48	48	48	48
1013	Machine Drive	1	Machine Drive	VFD for Process Pumps	285	284	285	285	285	284	285	285	285	284	285	285	285	284	285	285	285	284	285
1012	Machine Drive	1	Machine Drive	VFD for Process Fans	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
1005	Machine Drive	1	Machine Drive	Industrial Motor Management	66	65	65	66	65	65	65	65	65	65	65	66	65	65	66	65	65	65	65
1027	Machine Drive	1	Machine Drive	Receiver Capacity Addition	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
1009	Machine Drive	1	Machine Drive	Fan System Improvements	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
1021	Machine Drive	1	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
1026	Machine Drive	1	Machine Drive	High Efficiency Pumps - Early Replacement	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
1017	Machine Drive	1	Machine Drive	Automatic Drains, High-efficiency nozzles and other. (comp air)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
1031	Machine Drive	1	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
1011	Machine Drive	1	Machine Drive	Compressed Air - Advanced Compressor Controls	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
1002	Machine Drive	1	Machine Drive	Energy Information System	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Annual KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
1040		1		Process Cooling & Refrigeration																			
1048	Process Cooli	2	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
1049	Process Cooli	1	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
1046	Process Cooli	1	Process Cooling & Refrig	Floating Head Pressure Control	26	25	26	26	26	25	26	26	26	25	26	26	26	25	26	26	26	25	26
1043	Process Cooli	1	Process Cooling & Refrig	Electric Supply System Improvements	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
1041	Process Cooli	1	Process Cooling & Refrig	Sensors & Controls	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
1044	Process Cooli	1	Process Cooling & Refrig	Improved Refrigeration	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
1047	Process Cooli	1	Process Cooling & Refrig	Refrigerant charging correction	108	107	108	108	108	107	108	108	108	107	108	108	108	107	108	108	108	107	108
1042	Process Cooli	1	Process Cooling & Refrig	Energy Information System	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1045	Process Cooli	1	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1059		1		Process Heating																			
1053	Process Heati	1	Process Heating	Electric Supply System Improvements	48	47	48	48	48	47	48	48	48	47	48	48	48	47	48	48	48	47	48
1051	Process Heati	1	Process Heating	Sensors & Controls	40	40	40	41	40	40	40	40	40	40	40	40	40	40	41	40	40	40	40
1054	Process Heati	1	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
1052	Process Heati	1	Process Heating	Energy Information System	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
1069		2		Industrial Other																			
1063	Industrial Othe	1	Industrial Other	Barrel Insulation - Inj. Molding (plastics)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1066	Industrial Othe	2	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1062	Industrial Othe	2	Industrial Other	3 Phase High Eff Battery Charger - ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1069	Industrial Othe	2	Industrial Other	Hybrid Injection Molding Machine - ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1061	Industrial Othe	2	Industrial Other	High Efficiency Welders - ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1076	Industrial Othe	1	Industrial Other	On-Demand ventilation control for Dust and Fume Collection Systems	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1064	Industrial Othe	1	Industrial Other	Pellet Dryer Insulation (plastics)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1075	Industrial Othe	1	Industrial Other	Industrial Air Curtain	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1067	Industrial Othe	1	Industrial Other	Lab Fume Hood Ventilation Reduction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1071	Industrial Othe	1	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1070	Industrial Othe	1	Industrial Other	3 Phase High Eff Battery Charger - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1065	Industrial Othe	1	Industrial Other	Injection Molding Machine - efficient (plastics)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1072	Industrial Othe	1	Industrial Other	High Efficiency Welders - Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1073	Industrial Othe	1	Industrial Other	High Speed Turbo Blower for Wastewater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1074	Industrial Othe	1	Industrial Other	Hybrid Injection Molding Machine - Early Replacement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1068	Industrial Othe	1	Industrial Other	Process Fan Ventilation Reduction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1080		1		Agriculture																			
1093	Agricultural	1	Agriculture	Fan Thermostat Controller	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
1081	Agricultural	2	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1086	Agricultural	1	Agriculture	Milk Pre-Cooler Heat Exchanger	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
1092	Agricultural	1	Agriculture	Low Pressure Sprinkler Nozzles	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1088	Agricultural	1	Agriculture	VFD for Process Fans - Agriculture	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1091	Agricultural	1	Agriculture	Grain Storage Temperature and Moisture Management Controller	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
1089	Agricultural	1	Agriculture	VFD for Process Pumps - Agriculture	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
1094	Agricultural	2	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1087	Agricultural	1	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1095	Agricultural	1	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1083	Agricultural	1	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	1	Agriculture	VFD for Process Pumps - Irrigation	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
1082	Agricultural	1	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	1	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	1	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Totals (*1000)	11.04	11.01	11.01	11.02	11.02	11.02	11.07	11.03	11.01	11.00	11.00	11.04	11.07	10.98	11.02	11.02	11.00	11.05	11.03

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Cumulative KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
102	Computers &	2	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-ROB	18	35	53	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
104	Computers &	1	Office Equipment	PC Network Energy Management Controls replacing no central control	7	14	21	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
107	Computers &	2	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - ROB	1	2	3	4	4	5	6	7	8	9	10	10	11	12	13	13	13	13	13
109	Computers &	1	Appliances, Computers, Office Equipment	Energy Star office equipment including computers, monitors, copiers, multi-function machines-Early	57	114	172	228	228	227	228	228	229	227	227	228	228	228	228	228	227	227	228
111	Computers &	1	Appliances, Computers, Office Equipment	High Efficiency CRAC Unit - Early Replacement	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	5	5	5
101	Computers &	2	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Computers &	1	Appliances, Computers, Office Equipment	Energy Star Compliant Single Door Refrigerator-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Computers &	1	Office Equipment	Smart Strip plug outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	Computers &	2	Appliances, Computers, Office Equipment	Energy Star UPS-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	Computers &	1	Appliances, Computers, Office Equipment	Energy Star UPS- Early Replacment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150				Water Heating																			
165	Water Heating	1	Water Heating	Low Flow Faucet Aerator	19	38	57	76	95	114	133	152	171	189	190	190	190	189	190	190	190	189	190
168	Water Heating	1	Water Heating	Tank Insulation (electric)	2	3	5	7	9	10	12	14	16	17	19	21	23	24	26	26	26	26	27
171	Water Heating	1	Water Heating	Process Cooling Condenser Heat Recovery	2	4	5	7	9	11	13	15	16	18	20	22	24	25	27	27	27	27	28
151	Water Heating	2	Water Heating	Heat Pump Water Heater-ROB	2	4	5	7	9	11	12	14	16	18	19	21	23	25	26	26	26	26	27
153	Water Heating	2	Water Heating	Efficient Hot Water Pump-ROB	1	2	3	4	5	6	7	8	9	10	11	12	12	13	14	14	14	14	15
164	Water Heating	1	Water Heating	HVAC Condenser Heater Recovery Water Heating	1	2	2	3	4	5	5	6	7	8	8	9	10	11	11	11	11	11	12
176	Water Heating	1	Water Heating	Heat Pump Water Heater-Early Replacement	0	1	1	2	2	3	3	4	4	4	5	5	6	6	7	7	7	7	7
178	Water Heating	1	Water Heating	Efficient Hot Water Pump-Early Replacement	1	2	3	3	4	5	6	7	8	8	9	10	11	12	13	13	13	13	13
167	Water Heating	1	Water Heating	Hot Water (DHW) Pipe Insulation	2	5	7	10	12	14	17	19	22	24	27	29	31	34	36	39	41	43	46
166	Water Heating	1	Water Heating	Low Flow Showerhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Water Heating	2	Water Heating	Heat Pump Storage Water Heating-ROB	1	3	4	6	7	9	10	12	13	14	14	14	14	14	14	14	14	14	14
170	Water Heating	1	Water Heating	ECM Circulator Pump	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15	15	15	15
152	Water Heating	2	Water Heating	Electric Tankless Water Heater-ROB	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2
169	Water Heating	1	Water Heating	Drain Water Heat Recovery Water Heater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	Water Heating	1	Water Heating	Heat Pump Storage Water Heating-Early Replacement	0	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3
177	Water Heating	1	Water Heating	Electric Tankless Water Heater-Early Replacement	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2
300				Building Envelope																			
302	Other	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Other	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Other	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Other	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Other	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Other	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Other	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Other	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Other	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Other	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320				Ventilation																			
322	Ventilation	1	Ventilation	Variable Speed Drive Control, 15 HP	36	71	108	143	178	213	250	286	323	355	391	428	464	500	536	534	534	534	551
323	Ventilation	1	Ventilation	Variable Speed Drive Control, 5 HP	36	71	108	143	178	213	250	286	323	355	391	428	464	500	536	534	534	534	551
324	Ventilation	1	Ventilation	Variable Speed Drive Control, 40 HP	36	71	108	143	178	213	250	286	323	355	391	428	464	500	536	534	534	534	551
333	Ventilation	1	Ventilation	Engineered CKV Hood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Ventilation	1	Ventilation	Destratification Fan (HVLS)	20	41	61	81	101	121	142	163	183	202	223	243	264	284	305	304	303	304	313
321	Ventilation	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	Ventilation	1	Ventilation	High Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
331	Ventilation	1	Ventilation	High Volume Low Speed Fans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340				Space Cooling - Chillers																			
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	35	71	105	141	176	213	250	282	315	352	385	425	464	490	528	528	525	535	544
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	16	31	46	62	78	94	110	125	139	140	139	141	142	139	140	140	139	142	140
302	Space coolers	2	Envelope	Energy Efficient Windows-ROB	28	56	83	111	139	168	197	223	249	278	304	336	366	387	416	444	470	507	529
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	34	68	101	135	169	204	239	271	302	337	369	408	445	470	506	506	504	513	521
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	2	3	4	6	8	9	11	12	13	15	16	18	20	21	23	24	25	27	29
350	Space coolers	1	Space Cooling - Chillers	Chiller Tune Up	3	6	9	12	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
351	Space coolers	1	Space Cooling - Chillers	Efficient Chilled Water Pump	2	5	7	9	12	14	17	19	21	23	26	28	31	33	35	35	35	36	36
306	Space coolers	1	Space Cooling - Chillers	Wall Insulation	5	10	14	19	24	29	34	38	43	48	52	58	63	67	72	76	81	87	91
347	Space coolers	1	Space Cooling - Chillers	Chilled Hot Water Reset	14	28	42	57	71	86	100	114	113	113	113	114	115	113	113	113	113	115	114
343	Space coolers	1	Space Cooling - Chillers	Water Side Economizer	3	6	9	12	15	18	22	24	27	30	33	37	40	42	46	46	46	46	47
345	Space coolers	2	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ROB	7	15	22	29	36	44	51	58	65	72	79	87	95	101	108	116	122	132	138
348	Space coolers	2	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ROB	7	14	20	27	34	41	48	55	61	68	74	82	90	95	102	109	115	124	130
344	Space coolers	1	Space Cooling - Chillers	VAV System Conversion	1	2	2	3	4	5	5	6	7	8	8	9	10	11	12	12	13	14	15
301	Space coolers	1	Space Cooling - Chillers	Integrated Building Design	143	284	422	566	707	855	1,005	1,136	1,267	1,415	1,549	1,711	1,866	1,971	2,122	2,264	2,394	2,583	2,697
346	Space coolers	1	Space Cooling - Chillers	Motor Belt Replacement	1	1	2	2	3	4	4	5	5	6	7	7	8	9	9	9	9	9	9
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
341	Space coolers	2	Space Cooling - Chillers	Air-Cooled Recip Chiller-ROB	36	72	108	144	180	218	256	289	323	360	395	436	475	502	541	577	610	658	687
342	Space coolers	2	Space Cooling - Chillers	Air-Cooled Screw Chiller-ROB	37	73	109	146	183	221	260	294	328	366	401	442	483	510	549	585	619	668	698
309	Space coolers	1	Envelope	Energy Efficient Windows-Early Replacement	15	31	45	61	76	92	108	122	136	152	167	184	201	212	228	244	258	278	290
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	1	2	3	5	6	7	8	9	10	11	12	14	15	16	17	17	17	17	17
304	Space coolers	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
352	Space coolers	2	Space Cooling - Chillers	High Efficiency Pumps-ROB	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	7	7	7	7
354	Space coolers	1	Space Cooling - Chillers	Air-Cooled Screw Chiller-ER	14	29	42	57	71	86	101	114	127	142	156	172	188	198	213	228	241	260	271
307	Space coolers	1	Space Cooling - Chillers	Roof Insulation	1	1	2	3	3	4	5	5	6	6	7	8	8	9	10	10	11	12	12
356	Space coolers	1	Space Cooling - Chillers	Water-Cooled Screw Chiller > 300 ton-ER	2	5	7	10	12	15	18	20	22	25	27	30	33	34	37	40	42	45	47
357	Space coolers	1	Space Cooling - Chillers	High Efficiency Pumps-ER	1	1	2	2	3	3	4	4	5	5	6	7	7	8	8	8	8	8	8
353	Space coolers	1	Space Cooling - Chillers	Air-Cooled Recip Chiller-ER	13	26	39	52	65	78	92	104	116	129	142	156	171	180	194	207	219	236	247
355	Space coolers	1	Space Cooling - Chillers	Water-Cooled Centrifugal Chiller > 300 ton-ER	3	5	8	11	14	16	19	22	24	27	30	33	36	38	41	43	46	49	52
321	Space coolers	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space coolers	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space coolers	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space coolers	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space coolers	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Cumulative KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
360				HVAC Controls																			
369	Space coolers	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
363	Space coolers	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space coolers	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space coolers	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space coolers	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space coolers	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space coolers	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space coolers	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space coolers	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380				Space Cooling - Unitary and Split AC																			
363	Space Cooling	1	Space Cooling - Chillers	Commercial EMS	335	667	992	1,329	1,661	2,008	2,359	2,667	2,975	3,322	3,637	4,016	4,381	4,627	4,982	4,983	4,960	5,054	5,133
368	Space Cooling	1	Space Cooling - Chillers	Setback with Electric Heat	148	294	437	586	733	886	1,041	1,176	1,312	1,319	1,313	1,329	1,338	1,312	1,319	1,319	1,313	1,338	1,323
302	Space Cooling	2	Envelope	Energy Efficient Windows-ROB	264	526	783	1,049	1,311	1,585	1,862	2,105	2,348	2,622	2,871	3,170	3,458	3,653	3,933	4,196	4,437	4,787	4,999
370	Space Cooling	1	Space Cooling - Chillers	Web Enabled EMS	321	639	951	1,274	1,593	1,926	2,262	2,557	2,852	3,186	3,488	3,851	4,201	4,437	4,778	4,779	4,756	4,846	4,922
364	Space Cooling	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	14	29	42	57	71	86	101	114	127	142	156	172	188	198	213	228	241	260	271
306	Space Cooling	1	Space Cooling - Chillers	Wall Insulation	46	91	135	181	227	274	322	364	406	454	497	548	598	632	680	726	768	828	865
301	Space Cooling	1	Space Cooling - Chillers	Integrated Building Design	1,420	2,828	4,206	5,636	7,046	8,518	10,005	11,311	12,617	14,091	15,429	17,037	18,581	19,629	21,134	22,547	23,845	25,726	26,864
371	Space Cooling	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Cooling	1	Envelope	Energy Efficient Windows-Early Replacement	198	395	587	786	983	1,189	1,396	1,578	1,761	1,966	2,153	2,377	2,593	2,739	2,949	3,146	3,327	3,590	3,749
391	Space Cooling	1	Space Cooling - Unitary and Split AC	DX Condenser Coil Cleaning	27	53	79	79	79	80	80	79	79	79	79	80	80	79	79	79	79	80	79
369	Space Cooling	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	17	35	52	69	87	105	123	139	155	173	190	209	228	241	260	260	259	264	268
387	Space Cooling	1	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ROB	14	29	43	57	71	86	101	115	128	143	156	172	188	199	214	214	213	217	220
304	Space Cooling	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
392	Space Cooling	2	Space Cooling - Unitary and Split AC	Room AC-ROB	25	49	73	98	123	149	175	197	220	246	269	297	324	343	369	369	367	374	380
307	Space Cooling	1	Space Cooling - Chillers	Roof Insulation	7	14	20	27	34	41	48	54	60	67	74	81	89	94	101	108	114	123	128
398	Space Cooling	1	Space Cooling - Unitary and Split AC	Room AC-ER	31	62	93	124	155	187	220	249	278	310	339	375	409	432	465	465	463	472	479
321	Space Cooling	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space Cooling	1	Space Cooling - Chillers	Window Improvements	2	4	5	7	9	11	12	14	16	17	19	21	23	24	26	26	26	27	27
362	Space Cooling	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
382	Space Cooling	2	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ROB	55	110	164	220	275	332	390	441	492	549	601	664	724	765	824	824	820	835	849
384	Space Cooling	2	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	Space Cooling	2	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
394	Space Cooling	1	Space Cooling - Unitary and Split AC	Ductless (mini split) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Cooling	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Cooling	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Cooling	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Cooling	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Space Cooling	2	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ROB	114	227	338	453	567	685	805	910	1,015	1,133	1,241	1,370	1,494	1,578	1,699	1,700	1,692	1,724	1,751
393	Space Cooling	1	Space Cooling - Unitary and Split AC	AC 240K - 760 K-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395	Space Cooling	1	Space Cooling - Unitary and Split AC	Ground Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
397	Space Cooling	1	Space Cooling - Unitary and Split AC	Air Source Heat Pump - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
396	Space Cooling	1	Space Cooling - Unitary and Split AC	Water Loop Heat Pump (WLHP) - Cooling-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Cooling	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400				Cooking																			
500				Lighting																			
555	Lighting	2	Lighting Controls	Lighting Power Density - Parking Garage-ROB	1	2	3	4	6	7	8	9	10	11	12	13	13	13	13	13	13	13	13
564	Lighting	1	Lighting Controls	Lighting Power Density - Parking Garage-ER	2	3	5	7	9	10	12	14	16	17	19	21	21	21	21	21	21	21	21
554	Lighting	2	Lighting Controls	Lighting Power Density- Exterior-ROB	12	24	36	48	60	71	83	96	108	119	131	143	143	143	143	143	143	143	143
563	Lighting	1	Lighting Controls	Lighting Power Density- Exterior-ER	18	37	56	74	92	110	129	148	167	184	202	221	221	221	222	221	221	221	222
561	Lighting	1	Lighting Controls	Lighting Power Density - Interior	7	13	20	27	34	40	47	54	61	67	74	81	87	94	101	101	101	101	104
513	Lighting	1	Lighting	LED Low Bay Lighting	40	79	120	159	198	237	278	319	359	396	436	476	517	557	598	635	673	714	757
517	Lighting	1	Lighting	HID Fixture Upgrade - Pulse Start Metal Halide	23	47	70	94	117	138	163	187	211	233	256	280	304	327	351	373	372	373	395
515	Lighting	1	Lighting	High Intensity Fluorescent Fixture (replacing HID)	134	268	404	539	671	803	940	1,077	1,213	1,339	1,473	1,609	1,612	1,613	1,616	1,609	1,607	1,608	1,616
509	Lighting	1	Lighting	LED Exit Sign	7	15	22	30	37	44	52	60	67	74	81	89	97	104	112	119	119	119	126
528	Lighting	1	Lighting	LED Downlight	1	1	2	2	3	4	4	5	5	6	7	7	8	8	9	9	9	9	9
501	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing T12)	66	132	199	265	330	395	463	530	597	659	725	726	727	727	729	726	725	725	729
556	Lighting	1	Lighting Controls	Stairwell Bi-Level Control	12	25	37	49	61	73	86	99	111	110	110	110	111	111	111	110	110	110	111
562	Lighting	1	Lighting Controls	Long Day Lighting Dairy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
557	Lighting	1	Lighting Controls	Occupancy Sensor	67	133	201	267	333	398	467	534	602	664	664	665	667	667	668	665	664	665	668
503	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	48	97	146	194	241	289	338	388	437	482	530	579	629	677	727	724	723	723	746
548	Lighting	1	Lighting	LED Specialty replacing Incandescent	24	47	71	94	117	117	118	118	118	117	117	118	118	118	118	117	117	117	118
551	Lighting	1	Lighting Controls	Exterior Bi-level Controls	19	37	56	75	93	111	130	149	168	186	204	223	224	224	224	223	223	223	224
524	Lighting	1	Lighting	LED Screw In Replacing Incandescent	10	21	31	42	52	62	73	83	94	93	93	93	94	94	94	93	93	93	94
520	Lighting	2	Lighting	Interior Induction Lighting-ROB	53	106	159	212	264	316	370	424	477	527	579	633	687	740	794	844	843	843	895
553	Lighting	1	Lighting Controls	Daylight Sensor Controls	155	310	467	622	775	927	1,087	1,244	1,402	1,547	1,702	1,859	1,863	1,863	1,867	1,859	1,856	1,858	1,867
559	Lighting	1	Lighting Controls	Central Lighting Control	105	209	316	420	523	626	734	841	947	1,045	1,149	1,256	1,258	1,259	1,261	1,256	1,254	1,255	1,261
550	Lighting	1	Lighting	Poultry LED Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.1	Lighting	1	Lighting	Interior Induction Lighting-ER	43	86	129	172	214	256	300	344	387	427	470	514	557	600	644	685	684	684	726
506	Lighting	1	Lighting	T5 HP replacing T12	85	170	256	340	424	507	594	681	767	846	931	933	934	934	936	932	931	932	936
537	Lighting	1	Lighting	LED Grow Light	91	181	273	363	453	542	635	727	819	904	994	996	997	998	999	996	994	995	999
505	Lighting	1	Lighting	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard T8)	32	64	97	129	161	193	226	258	291	321	353	386	419	451	484	483	482	482	497
502	Lighting	1	Lighting	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	26	52	78	104	129	155	181	208	234	258	284	284	285	285	285	284	284	284	285
536	Lighting	1	Lighting	LED Tube Lighting	56	111	168	224	278	333	391	447	504	556	612	668	725	781	839	891	945	946	1,018
560	Lighting	1	Lighting Controls	Switching Controls for Multilevel Lighting (Non-HID)	67	135	203	271	337	403	473	541	610	673	740	809	810	811	812	809	808	808	812
558	Lighting	1	Lighting Controls	Occupancy Sensor & Daylight Sensor	67	133	201	267	333	398	467	534	602	664	664	665	667	667	668	665	664	665	668
512	Lighting	1	Lighting	LED High Bay Lighting	101	202	304	405	504	604	707	810	913	1,007	1,108	1,211	1,314	1,415	1,519	1,614	1,612	1,613	1,712
508	Lighting	1	Lighting	Garage HID replacement with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
507	Lighting	1	Lighting	Exterior HID replaced with LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
552	Lighting	1	Lighting Controls	Garage Bi-level Controls	9	17	26	35	44	52	61	70	79	87	87	87	87	87	88	87	87	87	88
542	Lighting	1	Lighting	Interior Non-Highbay/Lowbay LED Fixtures	75	149	225	299	372	446	522	598	674	744	818	894	970	1,045	1,122	1,192	1,264	1,340	1,421
545	Lighting	1	Lighting	LED Specialty replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
544	Lighting	2	Lighting	Exterior Linear Fluorescent-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
549	Lighting	1	Lighting	Illuminated Signs to LED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
514	Lighting	1	Lighting	Light Tube	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525	Lighting	1	Lighting	LED Screw In Replacing CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
516	Lighting	1	Lighting	42W 8 lamp Hi Bay CFL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550.2	Lighting	1	Lighting	Exterior Linear Fluorescent-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
529	Lighting	1	Lighting	LED Troffer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600				Refrigeration																			
614	Process cooli	1	Refrigeration	Floating Head Pressure Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	Process cooli	2	Refrigeration	H.E. Evaporative Fan Motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
625	Process cooli	2	Refrigeration	Door Gaskets - Cooler and Freezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
628	Process cooli	2	Refrigeration	ECM case fan motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
623	Process cooli	1	Refrigeration	Strip Curtains	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
622	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	Process cooli	2	Refrigeration	Automatic High Speed Doors - between freezer and cooler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
602	Process cooli	1	Refrigeration	Refrigerated Case Covers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
612	Process cooli	1	Refrigeration	Door Heater Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
611	Process cooli	1	Refrigeration	Zero-Energy Doors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
624	Process cooli	2	Refrigeration	Efficient Refrigeration Condenser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Freezers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
601	Process cooli	1	Refrigeration	Vending Miser for Soft Drink Vending Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
613	Process cooli	1	Refrigeration	Discus and Scroll Compressors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
603	Process cooli	1	Refrigeration	Refrigeration Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
607	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on S-P motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
626	Process cooli	1	Refrigeration	Reach-In Refrigerated display case door retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
621	Process cooli	2	Refrigeration	ENERGY STAR Commercial Glass Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
631	Process cooli	2	Refrigeration	Refrigerant charging correction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
627	Process cooli	2	Refrigeration	Refrigeration Savings due to Lighting Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
619	Process cooli	2	Refrigeration	ENERGY STAR Commercial Solid Door Refrigerators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
608	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on PSC motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
606	Process cooli	2	Refrigeration	Commercial Ice-makers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
629	Process cooli	2	Refrigeration	Efficient low-temp compressor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
609	Process cooli	1	Refrigeration	Evaporator Fan Motor Controls on ECM motors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Cumulative KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
700				Compressed Air																			
800				Space Heating																			
363	Space Heating	1	Space Cooling - Chillers	Commercial EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
368	Space Heating	1	Space Cooling - Chillers	Setback with Electric Heat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
302	Space Heating	2	Envelope	Energy Efficient Windows-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Space Heating	1	Space Cooling - Chillers	Web Enabled EMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
364	Space Heating	1	Space Cooling - Chillers	EMS Optimization / Continuous Commissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
306	Space Heating	1	Space Cooling - Chillers	Wall Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
806	Space Heating	1	Space Heating	VFD Pump	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301	Space Heating	1	Space Cooling - Chillers	Integrated Building Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
371	Space Heating	1	Space Cooling - Chillers	Retrocommissioning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
309	Space Heating	1	Envelope	Energy Efficient Windows-Early Replacement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
369	Space Heating	1	Space Cooling - Chillers	EMS Pump Scheduling Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
304	Space Heating	1	Envelope	Ceiling Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
803	Space Heating	2	Space Heating	Ground Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307	Space Heating	1	Space Cooling - Chillers	Roof Insulation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
805	Space Heating	2	Space Heating	Water Loop Heat Pump (WLHP) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
332	Space Heating	1	Ventilation	Destratification Fan (HVLS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
321	Space Heating	1	Ventilation	Economizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305	Space Heating	1	Space Cooling - Chillers	Window Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
362	Space Heating	1	HVAC Controls	Programmable Thermostats	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
807	Space Heating	1	Space Heating	ECM motors on furnaces	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
801	Space Heating	2	Space Heating	Air Source Heat Pump - Heating-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
809	Space Heating	1	Space Heating	Ground Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365	Space Heating	1	Space Cooling - Chillers	HVAC Occupancy Sensors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	Space Heating	2	Envelope	Cool Roofing-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
367	Space Heating	1	HVAC Controls	Zoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308	Space Heating	1	Envelope	Improved Duct Sealing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
804	Space Heating	2	Space Heating	Ductless (mini split) - Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
810	Space Heating	1	Space Heating	Ductless (mini split) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
811	Space Heating	1	Space Heating	Water Loop Heat Pump (WLHP) - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
808	Space Heating	1	Space Heating	Air Source Heat Pump - Heating-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	Space Heating	1	Envelope	Cool Roofing-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
900				Other																			
913	Other	1	Other	Engine Block Heater Timer	1	3	4	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
911	Other	1	Other	Parking Garage Exhaust Fan CO Control	2	3	5	6	8	9	11	12	14	16	17	19	20	22	23	23	23	23	24
903	Other	2	Other	NEMA Premium Transformer, three-phase-ROB	0	0	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3
909	Other	2	Other	High Efficiency Transformer, three-phase-ROB	0	0	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	4
901	Other	2	Other	High Efficiency Transformer, single-phase-ROB	0	0	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4
902	Other	2	Other	NEMA Premium Transformer, single-phase-ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
917	Other	1	Other	High Efficiency Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
914	Other	1	Other	High Efficiency Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
916	Other	1	Other	NEMA Premium Transformer, three-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
915	Other	1	Other	NEMA Premium Transformer, single-phase-ER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
912	Other	1	Other	Optimized Snow and Ice Melt Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000				Machine Drive																			
1022	Machine Drive	1	Machine Drive	Air-Entraining Air Nozzles	43	86	129	173	216	258	302	345	388	430	475	518	561	602	647	647	647	645	664
1006	Machine Drive	1	Machine Drive	Advanced Lubricants	522	521	522	522	522	521	522	522	522	521	522	522	522	521	522	522	522	521	522
1010	Machine Drive	1	Machine Drive	Compressed Air System Management	783	781	783	783	783	781	783	783	783	781	783	783	783	781	783	783	783	781	783
1018	Machine Drive	1	Machine Drive	Storage Tank Addition (comp air)	22	44	66	88	110	132	155	177	199	220	243	265	287	308	331	354	376	397	420
1023	Machine Drive	2	Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	29	58	86	115	144	173	202	231	259	288	317	346	375	403	433	432	432	431	444
1029	Machine Drive	2	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	191	381	573	764	955	1,143	1,338	1,529	1,720	1,906	2,102	2,293	2,484	2,667	2,867	2,866	2,866	2,858	2,943
1019	Machine Drive	2	Machine Drive	High Efficiency Dryers (comp air) - ROB	23	46	70	93	116	139	163	186	209	232	256	279	303	325	349	349	349	348	358
1030	Machine Drive	1	Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early	224	446	671	894	1,118	1,338	1,565	1,788	2,012	2,230	2,459	2,683	2,906	3,121	3,354	3,353	3,353	3,344	3,443
1016	Machine Drive	1	Machine Drive	Elec motors replacing pneumatic (comp air)	77	153	230	307	383	458	536	613	690	764	843	920	996	1,070	1,150	1,149	1,149	1,146	1,180
1008	Machine Drive	1	Machine Drive	Pump System Efficiency Improvements	177	353	531	708	885	1,059	1,239	1,416	1,593	1,766	1,947	2,125	2,302	2,472	2,656	2,656	2,655	2,648	2,727
1015	Machine Drive	1	Machine Drive	Compressed Air Audits and Leak Repair	1,317	1,314	1,317	1,318	1,317	1,314	1,317	1,317	1,317	1,314	1,317	1,317	1,317	1,314	1,318	1,317	1,317	1,314	1,317
1025	Machine Drive	1	Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	29	57	86	115	144	172	201	230	259	287	317	345	374	402	432	432	432	430	443
1007	Machine Drive	1	Machine Drive	Motor System Optimization (Including ASD)	561	1,118	1,682	2,243	2,803	3,354	3,925	4,485	5,046	5,592	6,166	6,728	7,289	7,826	8,411	8,409	8,408	8,386	8,634
1003	Machine Drive	1	Machine Drive	Electric Supply System Improvements	127	253	381	508	635	760	889	1,016	1,143	1,267	1,397	1,524	1,651	1,773	1,905	1,905	1,905	1,900	1,956
1014	Machine Drive	2	Machine Drive	High Efficiency Pumps - ROB	66	132	199	265	331	396	464	530	596	661	729	795	861	925	994	994	994	991	1,020
1028	Machine Drive	1	Machine Drive	Synchronous belt drives	396	790	1,189	1,189	1,189	1,186	1,189	1,189	1,189	1,186	1,189	1,189	1,189	1,186	1,189	1,189	1,189	1,186	1,189
1024	Machine Drive	1	Machine Drive	Compressed Air-Fixed Speed Air Compressor - Early Replacement	24	49	73	98	122	147	171	196	220	244	269	294	318	342	367	367	367	366	377
1001	Machine Drive	1	Machine Drive	Sensors & Controls	48	95	143	191	238	285	333	381	429	475	524	572	619	665	715	715	714	713	734
1013	Machine Drive	1	Machine Drive	VFD for Process Pumps	285	569	855	1,141	1,426	1,706	1,996	2,281	2,566	2,844	3,136	3,422	3,707	3,981	4,278	4,277	4,277	4,265	4,391
1012	Machine Drive	1	Machine Drive	VFD for Process Fans	80	160	241	322	402	481	563	643	724	802	884	965	1,045	1,123	1,206	1,206	1,206	1,203	1,238
1005	Machine Drive	1	Machine Drive	Industrial Motor Management	66	131	196	262	327	327	327	327	327	327	327	328	327	327	328	327	327	327	327
1027	Machine Drive	1	Machine Drive	Receiver Capacity Addition	27	55	82	110	137	164	192	219	246	273	274	274	274	273	274	274	274	273	274
1009	Machine Drive	1	Machine Drive	Fan System Improvements	14	28	42	56	70	84	99	113	127	141	155	169	183	197	211	211	211	211	217
1021	Machine Drive	1	Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	26	53	79	106	132	158	185	211	238	263	290	317	343	369	396	396	396	395	407
1026	Machine Drive	1	Machine Drive	High Efficiency Pumps - Early Replacement	67	134	202	270	337	403	472	539	606	672	741	809	876	941	1,011	1,011	1,010	1,008	1,038
1017	Machine Drive	1	Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	15	29	44	59	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
1031	Machine Drive	1	Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	64	128	192	256	320	383	448	512	576	639	704	768	832	894	960	960	960	958	986
1011	Machine Drive	1	Machine Drive	Compressed Air - Advanced Compressor Controls	18	36	54	73	91	109	127	145	163	181	199	218	236	253	272	272	272	271	279
1002	Machine Drive	1	Machine Drive	Energy Information System	13	27	40	54	67	80	94	107	121	134	147	161	174	187	201	201	201	200	206
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Machine Drive				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Energy/Demand/# Measures/Participants)

Cumulative KW Reduction

#		Cost Type: 1=Full 2=Inc.	End Use	Measure Name	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
100				Computers & Office Equipment																			
1040		1		Process Cooling & Refrigeration																			
1048	Process Cooli	2	Process Cooling & Refrig	Evaporator Motor Reduction - ROB	14	29	43	58	72	86	101	116	130	144	159	173	188	202	217	217	217	216	222
1049	Process Cooli	1	Process Cooling & Refrig	Evaporator Motor Reduction - Early Replacement	17	35	52	69	87	104	121	139	156	173	191	208	226	242	260	260	260	259	267
1046	Process Cooli	1	Process Cooling & Refrig	Floating Head Pressure Control	26	51	77	102	128	153	179	204	230	255	281	307	332	357	383	383	383	382	393
1043	Process Cooli	1	Process Cooling & Refrig	Electric Supply System Improvements	25	50	75	99	124	149	174	199	224	248	273	298	323	347	373	373	373	372	383
1041	Process Cooli	1	Process Cooling & Refrig	Sensors & Controls	21	41	62	83	104	124	145	166	187	207	228	249	270	290	311	311	311	310	319
1044	Process Cooli	1	Process Cooling & Refrig	Improved Refrigeration	79	157	236	315	394	471	551	630	709	786	866	945	1,024	1,100	1,182	1,182	1,182	1,178	1,213
1047	Process Cooli	1	Process Cooling & Refrig	Refrigerant charging correction	108	214	215	215	215	214	215	215	215	214	215	215	215	214	216	215	215	214	215
1042	Process Cooli	1	Process Cooling & Refrig	Energy Information System	6	12	18	23	29	35	41	47	53	59	65	70	76	82	88	88	88	88	90
1045	Process Cooli	1	Process Cooling & Refrig	Evaporator Fan Motor Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050		1		Process Heating																			
1053	Process Heati	1	Process Heating	Electric Supply System Improvements	48	95	143	190	238	285	333	381	429	475	524	571	619	665	714	714	714	712	733
1051	Process Heati	1	Process Heating	Sensors & Controls	40	81	121	162	202	242	283	324	364	404	445	486	526	565	608	607	607	606	624
1054	Process Heati	1	Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	22	44	66	88	110	131	154	176	198	219	219	219	219	219	220	219	219	219	219
1052	Process Heati	1	Process Heating	Energy Information System	15	30	45	60	75	89	105	120	135	149	164	179	194	209	224	224	224	224	230
1060		2		Industrial Other																			
1063	Industrial Othe	1	Industrial Other	Barrel Insulation - Inj. Molding (plastics)	1	1	2	2	3	3	4	5	5	6	6	6	6	6	6	6	6	6	6
1066	Industrial Othe	2	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - ROB	3	5	8	10	13	15	18	21	23	26	28	31	34	36	39	41	44	46	49
1062	Industrial Othe	2	Industrial Other	3 Phase High Eff Battery Charger - ROB	0	1	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	5	6
1069	Industrial Othe	2	Industrial Other	Hybrid Injection Molding Machine - ROB	1	2	3	3	4	5	6	7	8	8	9	10	11	12	13	13	14	15	16
1061	Industrial Othe	2	Industrial Other	High Efficiency Welders - ROB	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2
1076	Industrial Othe	1	Industrial Other	On-Demand ventilation control for Dust and Fume Collection Systems	1	1	2	3	4	4	5	6	6	7	8	9	9	10	11	11	11	11	11
1064	Industrial Othe	1	Industrial Other	Pellet Dryer Insulation (plastics)	0	1	1	2	2	3	3	3	4	4	4	4	4	4	4	4	4	4	4
1075	Industrial Othe	1	Industrial Other	Industrial Air Curtain	3	6	9	12	15	17	20	23	26	29	32	35	38	41	44	44	44	44	45
1067	Industrial Othe	1	Industrial Other	Lab Fume Hood Ventilation Reduction	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4
1071	Industrial Othe	1	Industrial Other	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
1070	Industrial Othe	1	Industrial Other	3 Phase High Eff Battery Charger - Early Replacement	0	1	1	1	2	2	2	2	3	3	3	4	4	4	5	5	5	5	5
1065	Industrial Othe	1	Industrial Other	Injection Molding Machine - efficient (plastics)	1	1	2	2	3	3	4	5	5	6	6	7	7	8	9	9	10	10	11
1072	Industrial Othe	1	Industrial Other	High Efficiency Welders - Early Replacement	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2
1073	Industrial Othe	1	Industrial Other	High Speed Turbo Blower for Wastewater	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
1074	Industrial Othe	1	Industrial Other	Hybrid Injection Molding Machine - Early Replacement	1	1	2	2	3	4	4	5	5	6	7	7	8	8	9	10	10	11	11
1068	Industrial Othe	1	Industrial Other	Process Fan Ventilation Reduction	1	2	3	3	4	5	6	7	8	8	9	10	11	12	13	13	13	13	13
1080		1		Agriculture																			
1093	Agricultural	1	Agriculture	Fan Thermostat Controller	17	33	50	67	83	100	116	133	150	166	183	200	216	232	250	249	249	249	256
1081	Agricultural	2	Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	3	6	9	12	15	18	21	24	26	29	32	35	38	41	44	44	44	44	45
1086	Agricultural	1	Agriculture	Milk Pre-Cooler Heat Exchanger	16	33	49	65	82	98	114	131	147	163	180	196	212	228	245	245	245	244	251
1092	Agricultural	1	Agriculture	Low Pressure Sprinkler Nozzles	6	12	18	25	31	37	43	49	55	61	68	74	80	86	92	92	92	92	95
1088	Agricultural	1	Agriculture	VFD for Process Fans - Agriculture	10	19	29	39	49	58	68	78	87	97	107	116	126	135	146	146	146	145	149
1091	Agricultural	1	Agriculture	Grain Storage Temperature and Moisture Management Controller	7	14	21	28	35	42	49	56	63	69	77	84	90	97	104	104	104	104	107
1089	Agricultural	1	Agriculture	VFD for Process Pumps - Agriculture	18	35	53	71	88	106	123	141	159	176	194	212	229	246	265	265	264	264	272
1094	Agricultural	2	Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	2	5	7	9	12	14	16	19	21	23	26	28	31	33	35	35	35	35	36
1087	Agricultural	1	Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	8	16	24	32	40	48	56	64	72	80	80	80	80	80	80	80	80	80	80
1095	Agricultural	1	Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	4	7	11	15	19	22	26	30	34	37	41	45	49	52	56	56	56	56	58
1083	Agricultural	1	Agriculture	Greenhouse Environmental Controls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1090	Agricultural	1	Agriculture	VFD for Process Pumps - Irrigation	22	44	66	88	110	132	154	176	199	220	221	221	221	220	221	221	221	220	221
1082	Agricultural	1	Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1085	Agricultural	1	Agriculture	Variable Speed Drive withHeat Exchanger, Milk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1084	Agricultural	1	Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Totals (*1000)	11.04	19.41	27.67	35.58	43.34	51.08	59.05	66.50	73.93	81.38	88.51	95.99	102.79	108.27	115.11	117.71	119.86	123.21	127.00

4 CSR 240-22.050(3)(G)1; 4 CSR 240-22.050(3)(G)4; 4 CSR 240-22.050(3)(H); 4 CSR 240-22.050(3)(G)3

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

GDS ASSOCIATES - COST EFFECTIVENESS SCREENING TOOL©

INPUT WORKSHEET Non HVAC

#1 Office Equipment Ratio: TRC 20 50%

*MAP level Incentives equaled 100% of Measure/Incremental Cost

	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Measure Level Ratios TRC	Direct Utility	Participant	RIM
1	Energy Star Compliant Refrigerator-ROB	A - Commercial Office Equipment	$750	$375	$375	$750	$375	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	Energy Star office equipment including computers, monitors, cop	A - Commercial Office Equipment	$137	$69	$69	$137	$69	3.60	7.19	0.50	7.19
3	Smart Strip plug outlet	A - Commercial Office Equipment	$40	$20	$20	$40	$20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	PC Network Energy Management Controls replacing no central c	A - Commercial Office Equipment	$20	$10	$10	$20	$10	3.39	6.78	0.50	6.78
5	Energy Star UPS-ROB	A - Commercial Office Equipment	$1,303	$652	$652	$1,303	$652	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	High Efficiency CRAC unit-ROB	A - Commercial Office Equipment	$83	$41	$41	$83	$41	2.33	4.65	0.50	4.65
7	Energy Star Compliant Refrigerator-ER	A - Commercial Office Equipment	$802	$401	$401	$802	$401	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8	Energy Star office equipment including computers, monitors, cop	A - Commercial Office Equipment	$227	$113	$113	$227	$113	2.17	4.35	0.50	4.35
9	Energy Star UPS-ER	A - Commercial Office Equipment	$1,407	$704	$704	$1,407	$704	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
10	High Efficiency CRAC unit-ER	A - Commercial Office Equipment	$113	$56	$56	$113	$56	1.75	3.50	0.50	3.50
11	*Add New Measure*										
	Program Totals:	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	1.63	2.45	0.50	2.45

#2 Water Heating Ratio: TRC

	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Measure Level Ratios TRC	Direct Utility	Participant	RIM
1	Heat Punp Water Heater-ROB	G - Commercial Electric DHW	$10,600	$5,300	$5,300	$10,600	$5,300	22.66	45.33	0.50	45.33
2	Heat Pump Storage Wtaer Heater-ROB	G - Commercial Electric DHW	$83	$42	$42	$83	$42	6.11	12.23	0.50	12.23
3	Electric Tankless Water Heater-ROB	G - Commercial Electric DHW	$466	$233	$233	$466	$233	2.55	5.10	0.50	5.10
4	Low Flow Faucet Aerator	G - Commercial Electric DHW	$3	$1	$1	$3	$1	281.86	563.71	0.50	563.71
5	Low Flow Showerhead	G - Commercial Electric DHW	$25	$13	$13	$25	$13	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Hot Water (DHW) Pipe Insulation	G - Commercial Electric DHW	$10	$5	$5	$10	$5	7.28	14.56	0.50	14.56
7	Tank Insulation (electric)	G - Commercial Electric DHW	$2	$1	$1	$2	$1	224.06	448.12	0.50	448.12
8	ECM Circulator Pump	G - Commercial Electric DHW	$2,267	$1,133	$1,133	$2,267	$1,133	2.80	5.59	0.50	5.59
9	Drain water Heat Recovery Water Heater	G - Commercial Electric DHW	$631	$316	$316	$631	$316	1.57	3.14	0.50	3.14
10	Efficient Hot Water Pump-ROB	G - Commercial Electric DHW	$33	$17	$17	$33	$17	19.38	38.75	0.50	38.75
11	HVAC Condenser Heater Recovery Water Heating	G - Commercial Electric DHW	$254	$127	$127	$254	$127	39.97	79.94	0.50	79.94
12	Process Cooling Condenser Heater Recovery Water Heating	G - Commercial Electric DHW	$254	$127	$127	$254	$127	29.98	59.96	0.50	59.96
13	Heat Punp Water Heater-ER	G - Commercial Electric DHW	$13,846	$6,923	$6,923	$13,846	$6,923	17.35	34.70	0.50	34.70
14	Heat Pump Storage Water Heater-ER	G - Commercial Electric DHW	$231	$116	$116	$231	$116	2.25	4.50	0.50	4.50
15	Electric Tankless Water Heater-ER	G - Commercial Electric DHW	$681	$341	$341	$681	$341	1.75	3.49	0.50	3.49
16	Efficient Hot Water Pump-ER	G - Commercial Electric DHW	$61	$31	$31	$61	$31	10.46	20.93	0.50	20.93
17	*Add New Measure*										
	Program Totals:	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	11.57	17.36	0.50	17.36

#3 Ventilation Ratio: TRC

	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Measure Level Ratios TRC	Direct Utility	Participant	RIM
1	Economizer	C - Commercial Ventilation	$101	$51	$51	$101	$51	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	Variable Speed Drive Control, 15 HP	C - Commercial Ventilation	$3,690	$1,845	$1,845	$3,690	$1,845	6.33	12.66	0.50	12.66
3	Variable Speed Drive Control, 5 HP	C - Commercial Ventilation	$1,230	$615	$615	$1,230	$615	6.33	12.66	0.50	12.66
4	Variable Speed Drive Control, 40 HP	C - Commercial Ventilation	$9,840	$4,920	$4,920	$9,840	$4,920	6.33	12.66	0.50	12.66
5	High Speed Fans	C - Commercial Ventilation	$675	$338	$338	$675	$338	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	High Volume Low Speed Fans	C - Commercial Ventilation	$375	$188	$188	$375	$188	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	Destratification Fans (HVLS)	C - Commercial Ventilation	$13	$6	$6	$13	$6	2.59	5.19	0.50	5.19
8	Engineered CKV hood	C - Commercial Ventilation	$316	$158	$158	$316	$158	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	*Add New Measure*										
	Program Totals:	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	3.61	5.42	0.50	5.42

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#4	Lighting	Ratio: TRC									
			Measure Level Ratios								
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Lamp & Ballast Retrofit (HPT8 Replacing T12)	H - Commercial Lighting	$11	$6	$6	$11	$6	6.30	12.61	0.50	12.61
2	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	H - Commercial Lighting	$11	$6	$6	$11	$6	2.30	4.60	0.50	4.60
3	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	H - Commercial Lighting	$37	$19	$19	$37	$19	3.36	6.73	0.50	6.73
4	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard	H - Commercial Lighting	$37	$19	$19	$37	$19	2.01	4.02	0.50	4.02
5	T5 HP Retrofits	H - Commercial Lighting	$366	$183	$183	$366	$183	2.99	5.98	0.50	5.98
6	Light Tube	H - Commercial Lighting	$500	$250	$250	$500	$250	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	High Intensity Fluorescent Fixture (replacing HID)	H - Commercial Lighting	$284	$142	$142	$284	$142	5.14	10.27	0.50	10.27
8	42W 8 lamp Hi Bay CFL	H - Commercial Lighting	$496	$248	$248	$496	$248	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	HID Fixture Upgrade - Pulse Start Metal Halide	H - Commercial Lighting	$162	$81	$81	$162	$81	5.66	11.32	0.50	11.32
10	Interior induction Lighting-ROB	H - Commercial Lighting	$2	$1	$1	$2	$1	3.99	7.98	0.50	7.98
11	LED Screw In (replacing Incandescent)	H - Commercial Lighting	$28	$14	$14	$28	$14	3.82	7.64	0.50	7.64
12	LED Screw In (replacing CFL)	H - Commercial Lighting	$12	$6	$6	$12	$6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
13	LED High bay lighting	H - Commercial Lighting	$2,900	$1,450	$1,450	$2,900	$1,450	2.17	4.35	0.50	4.35
14	LED low bay lighting	H - Commercial Lighting	$298	$149	$149	$298	$149	8.67	17.34	0.50	17.34
15	LED Downlight	H - Commercial Lighting	$61	$31	$31	$61	$31	4.69	9.38	0.50	9.38
16	LED Specialty (replacing Incandescent)	H - Commercial Lighting	$23	$12	$12	$23	$12	4.15	8.31	0.50	8.31
17	LED Specialty (replacing CFL)	H - Commercial Lighting	$10	$5	$5	$10	$5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
18	LED Troffer	H - Commercial Lighting	$125	$63	$63	$125	$63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	LED Tube Lighting	H - Commercial Lighting	$30	$15	$15	$30	$15	2.20	4.39	0.50	4.39
20	LED Grow Light	H - Commercial Lighting	$2	$1	$1	$2	$1	2.82	5.65	0.50	5.65
21	Interior Non Highbay/Lowbay LED Fixtures	H - Commercial Lighting	$3	$1	$1	$3	$1	1.64	3.29	0.50	3.29
22	Illuminated Signs to LED	H - Commercial Lighting	$4	$2	$2	$4	$2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
23	LED Exit Sign	H - Commercial Lighting	$64	$32	$32	$64	$32	4.78	9.56	0.50	9.56
24	Exterior HID replacement with LEDs	H - Commercial Lighting	$754	$377	$377	$754	$377	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	Garage HID replacement with LEDs	H - Commercial Lighting	$567	$283	$283	$567	$283	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	Exterior Linear Fluorescent-ROB	H - Commercial Lighting	$567	$283	$283	$567	$283	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Central Lighting Control	H - Commercial Lighting	$2,700	$1,350	$1,350	$2,700	$1,350	3.23	6.47	0.50	6.47
28	Daylight Sensor Controls	H - Commercial Lighting	$3,000	$1,500	$1,500	$3,000	$1,500	3.67	7.34	0.50	7.34
29	Occupancy Sensor	H - Commercial Lighting	$98	$49	$49	$98	$49	3.28	6.55	0.50	6.55
30	Occupancy Sensor & Daylight Sensor	H - Commercial Lighting	$278	$139	$139	$278	$139	2.09	4.18	0.50	4.18
31	Switching Controls for Multilevel Lighting (Non-HID)	H - Commercial Lighting	$3,000	$1,500	$1,500	$3,000	$1,500	2.81	5.63	0.50	5.63
32	Lighting Power Density - Interior	H - Commercial Lighting	$220	$110	$110	$220	$110	15.44	30.87	0.50	30.87
33	Lighting Power Density - Exterior-ROB	H - Commercial Lighting	$220	$110	$110	$220	$110	14.07	28.13	0.50	28.13
34	Lighting Power Density - Parking Garage-ROB	H - Commercial Lighting	$220	$110	$110	$220	$110	35.90	71.79	0.50	71.79
35	Stairwell Bi-Level Control	H - Commercial Lighting	$825	$413	$413	$825	$413	4.03	8.05	0.50	8.05
36	Exterior BiLevel Controls	H - Commercial Lighting	$3,700	$1,850	$1,850	$3,700	$1,850	3.92	7.83	0.50	7.83
37	Garage BiLevel Controls	H - Commercial Lighting	$500	$250	$250	$500	$250	1.84	3.67	0.50	3.67
38	Long Day Lighting Dairy	H - Commercial Lighting	$2	$1	$1	$2	$1	#DIV/0!	#DIV/0!	0.00	0.00
39	Poultry LED Lighting	H - Commercial Lighting	2	1	1	2	$1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
40	Interior induction Lighting-ER	H - Commercial Lighting	$2	$1	$1	$2	$1	3.59	7.18	0.50	7.18
41	Exterior Linear Fluorescent-ER	H - Commercial Lighting	$830	$415	$415	$830	$415	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
42	Lighting Power Density - Exterior-ER	H - Commercial Lighting	$234	$117	$117	$234	$117	13.25	26.49	0.50	26.49
43	Lighting Power Density - Parking Garage-ER	H - Commercial Lighting	$234	$117	$117	$234	$117	33.80	67.60	0.50	67.60
44	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	2.20	3.30	0.50	3.30

#5	Other	Ratio: TRC									
			Measure Level Ratios								
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	NEMA Premium Transformer, single-phase-ROB	J - Other - C/I	$12	$6	$6	$12	$6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	NEMA Premium Transformer, three-phase-ROB	J - Other - C/I	$10	$5	$5	$10	$5	1.36	2.72	0.50	2.72
3	High Efficiency Transformer, single-phase-ROB	J - Other - C/I	$2	$1	$1	$2	$1	1.92	3.84	0.50	3.84
4	High Efficiency Transformer, three-phase-ROB	J - Other - C/I	$6	$3	$3	$6	$3	1.92	3.83	0.50	3.83
5	Optimized Snow and Ice Melt Controls (electric)	J - Other - C/I	$15	$8	$8	$15	$8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Engine Block Heater Timer	J - Other - C/I	$35	$18	$18	$35	$18	24.04	48.09	0.50	48.09
7	Parking Garage Exhaust Fan CO Control	J - Other - C/I	$900	$450	$450	$900	$450	2.86	5.73	0.50	5.73
8	NEMA Premium Transformer, single-phase-ER	J - Other - C/I	$15	$8	$8	$15	$8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	NEMA Premium Transformer, three-phase-ER	J - Other - C/I	$14	$7	$7	$14	$7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
10	High Efficiency Transformer, single-phase-ER	J - Other - C/I	$2	$1	$1	$2	$1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
11	High Efficiency Transformer, three-phase-ER	J - Other - C/I	$10	$5	$5	$10	$5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	2.83	4.24	0.50	4.24

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#6	Machine Drive	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Advanced Lubricants	K - Industrial Process	$0.001	$0.001	$0.001	$0.001	$0	117.06	234.12	0.50	234.12
2	Compressed Air System Management	K - Industrial Process	$0.002	$0.001	$0.001	$0.002	$0	73.19	146.38	0.50	146.38
3	Compressed Air - Advanced Compressor Controls	K - Industrial Process	$0.050	$0.025	$0.025	$0.050	$0	29.54	59.08	0.50	59.08
4	Elec Motors Replacing Pneumatic (Comp Air)	K - Industrial Process	$620.000	$310.000	$310.000	$620.000	$310	22.99	45.97	0.50	45.97
5	Compressed Air Audits and Leak Repair	K - Industrial Process	$4.000	$2.000	$2.000	$4.000	$2	11.77	23.54	0.50	23.54
6	Storage Tank Addition (Comp Air)	K - Industrial Process	$24.000	$12.000	$12.000	$24.000	$12	24.04	48.07	0.50	48.07
7	VFD for Process Fans	K - Industrial Process	$200.000	$100.000	$100.000	$200.000	$100	5.64	11.29	0.50	11.29
8	Automatic Drains, High Efficiency Nozzles and Other (Comp Air)	K - Industrial Process	$355.000	$177.500	$177.500	$355.000	$178	1.85	3.70	0.50	3.70
9	VFD for Process Pumps	K - Industrial Process	$200.000	$100.000	$100.000	$200.000	$100	5.81	11.62	0.50	11.62
10	Pump System Efficiency Improvements	K - Industrial Process	$0.008	$0.004	$0.004	$0.008	$0	184.62	369.23	0.50	369.23
11	Motor System Optimization (Including ASD)	K - Industrial Process	$0.009	$0.005	$0.005	$0.009	$0	164.10	328.21	0.50	328.21
12	Electric Supply System Improvements	K - Industrial Process	$0.010	$0.005	$0.005	$0.010	$0	147.69	295.39	0.50	295.39
13	Sensors & Controls	K - Industrial Process	$0.014	$0.007	$0.007	$0.014	$0	105.50	210.99	0.50	210.99
14	Industrial Motor Management	K - Industrial Process	$0.018	$0.009	$0.009	$0.018	$0	29.92	59.84	0.50	59.84
15	Fan System Improvements	K - Industrial Process	$0.024	$0.012	$0.012	$0.024	$0	61.54	123.08	0.50	123.08
16	High Efficiency Pumps ROB	K - Industrial Process	$31.000	$15.500	$15.500	$31.000	$16	22.25	44.51	0.50	44.51
17	Advanced Efficient Motors ROB	K - Industrial Process	$4.550	$2.275	$2.275	$4.550	$2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
18	High Efficiency Dryers (Comp Air) ROB	K - Industrial Process	$4.000	$2.000	$2.000	$4.000	$2	14.69	29.38	0.50	29.38
19	Energy Information System	K - Industrial Process	$0.061	$0.031	$0.031	$0.061	$0	24.21	48.42	0.50	48.42
20	Advanced Efficient Motors - Early Replacement	K - Industrial Process	$34.200	$17.100	$17.100	$34.200	$17	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
21	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	K - Industrial Process	$1,482.000	$741.000	$741.000	$1,482.000	$741	3.65	7.30	0.50	7.30
22	Air-Entraining Air Nozzles	K - Industrial Process	$98.000	$49.000	$49.000	$98.000	$49	114.95	229.89	0.50	229.89
23	Compressed Air-Fixed Speed Air Compressor - ROB	K - Industrial Process	$30.000	$15.000	$15.000	$30.000	$15	45.09	90.18	0.50	90.18
24	Compressed Air-Fixed Speed Air Compressor - Early Replacement	K - Industrial Process	$81.870	$40.935	$40.935	$81.870	$41	16.52	33.05	0.50	33.05
25	High Efficiency Dryers (comp air) - Early Replacement	K - Industrial Process	$6.180	$3.090	$3.090	$6.180	$3	9.51	19.01	0.50	19.01
26	High Efficiency Pumps - Early Replacement	K - Industrial Process	$99.130	$49.565	$49.565	$99.130	$50	7.08	14.17	0.50	14.17
27	Receiver Capacity Addition	K - Industrial Process	$2,000.000	$1,000.000	$1,000.000	$2,000.000	$1,000	4.68	9.36	0.50	9.36
28	Synchronous belt drives	K - Industrial Process	$6.480	$3.240	$3.240	$6.480	$3	8.07	16.13	0.50	16.13
29	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	K - Industrial Process	$190.000	$95.000	$95.000	$190.000	$95	23.79	47.58	0.50	47.58
30	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early Replacement	K - Industrial Process	$241.870	$120.935	$120.935	$241.870	$121	18.69	37.38	0.50	37.38
31	VSD Air Compressor-Install VSD Air Compressor for Trim	K - Industrial Process	$669.000	$334.500	$334.500	$669.000	$335	3.04	6.08	0.50	6.08
32	*Add New Measure*	K - Industrial Process									
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	10.79	16.19	0.50	16.19

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#7	Industrial Other	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Barrel Insulation - Inj. Molding (Plastics)	K - Industrial Process	$80	$40	$40	$80	$40	15.16	30.32	0.50	30.32
2	High Efficiency Welders ROB	K - Industrial Process	$300	$150	$150	$300	$150	6.56	13.12	0.50	13.12
3	Pellet Dryer Insulation (Plastics)	K - Industrial Process	$40	$20	$20	$40	$20	6.85	13.70	0.50	13.70
4	3 Phase High Eff Battery Charger ROB	K - Industrial Process	$873	$436	$436	$873	$436	4.33	8.67	0.50	8.67
5	Injection Molding Machine - Efficient (Plastics)	K - Industrial Process	$175	$88	$88	$175	$88	2.45	4.89	0.50	4.89
6	Fiber Laser Replacing CO2 Laser (Auto Industry) ROB	K - Industrial Process	$5,000	$2,500	$2,500	$5,000	$2,500	9.69	19.38	0.50	19.38
7	Lab Fume Hood Ventilation Reduction	K - Industrial Process	$4	$2	$2	$4	$2	3.64	7.28	0.50	7.28
8	Process Fan Ventilation Reduction	K - Industrial Process	$2	$1	$1	$2	$1	1.62	3.24	0.50	3.24
9	Hybrid Injection Molding Machine ROB	K - Industrial Process	$75	$38	$38	$75	$38	4.80	9.61	0.50	9.61
10	3 Phase High Eff Battery Charger - Early Replacement	K - Industrial Process	$1,313	$656	$656	$1,313	$656	2.33	4.67	0.50	4.67
11	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	K - Industrial Process	$21,767	$10,884	$10,884	$21,767	$10,884	2.34	4.68	0.50	4.68
12	High Efficiency Welders - Early Replacement	K - Industrial Process	$635	$318	$318	$635	$318	3.16	6.32	0.50	6.32
13	High Speed Turbo Blower for Wastewater	K - Industrial Process	$1,100	$550	$550	$1,100	$550	2.36	4.72	0.50	4.72
14	Hybrid Injection Molding Machine - Early Replacement	K - Industrial Process	$189	$95	$95	$189	$95	1.99	3.99	0.50	3.99
15	Industrial Air Curtain	K - Industrial Process	$45	$23	$23	$45	$23	3.29	6.57	0.50	6.57
16	On-Demand ventilation control for Dust and Fume Collection Systems	K - Industrial Process	$766	$383	$383	$766	$383	4.45	8.89	0.50	8.89
17	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	2.52	3.78	0.50	3.78

#8	Process Cooling & Refrigeration	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Improved Refrigeration	K - Industrial Process	$0	$0	$0	$0	$0	49.23	98.46	0.50	98.46
2	Electric Supply System Improvements	K - Industrial Process	$0	$0	$0	$0	$0	147.69	295.39	0.50	295.39
3	Sensors & Controls	K - Industrial Process	$0	$0	$0	$0	$0	105.50	210.99	0.50	210.99
4	Energy Information System	K - Industrial Process	$0	$0	$0	$0	$0	24.21	48.42	0.50	48.42
5	Evaporator Fan Motor Controls	K - Industrial Process	$621	$311	$311	$621	$311	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Floating Head Pressure Control	K - Industrial Process	$120	$60	$60	$120	$60	9.54	19.07	0.50	19.07
7	Refrigerant charging correction	K - Industrial Process	$10	$5	$5	$10	$5	3.73	7.46	0.50	7.46
8	Evaporator Motor Reduction - ROB	K - Industrial Process	$1	$0	$0	$1	$0	136.05	272.11	0.50	272.11
9	Evaporator Motor Reduction - Early Replacement	K - Industrial Process	$4	$2	$2	$4	$2	19.22	38.43	0.50	38.43
10	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	10.30	15.45	0.50	15.45

#9	Process Heating	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Electric Supply System Improvements	K - Industrial Process	$0	$0	$0	$0	$0	147.69	295.39	0.50	295.39
2	Sensors & Controls	K - Industrial Process	$0	$0	$0	$0	$0	105.50	210.99	0.50	210.99
3	Energy Information System	K - Industrial Process	$0	$0	$0	$0	$0	24.21	48.42	0.50	48.42
4	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	K - Industrial Process	$500	$250	$250	$500	$250	1.85	3.69	0.50	3.69
5	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	12.13	18.20	0.50	18.20

#10	Agriculture	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Other Industrial - Low-Energy Livestock Waterer ROB	K - Industrial Process	$92	$46	$46	$92	$46	23.92	47.84	0.50	47.84
2	Other Industrial - Dairy Refrigerator Tune-Up	K - Industrial Process	$0	$0	$0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
3	Greenhouse Environmental Controls	K - Industrial Process	$125	$63	$63	$125	$63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	K - Industrial Process	$1,500	$750	$750	$1,500	$750	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
5	Variable Speed Drive with Heat Exchanger, Milk	K - Industrial Process	$2	$1	$1	$2	$1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Milk Pre-Cooler Heat Exchanger	K - Industrial Process	$0	$0	$0	$0	$0	13.18	26.36	0.50	26.36
7	Variable Speed Drives for Dairy Vacuum Pumps	K - Industrial Process	$356	$178	$178	$356	$178	1.96	3.91	0.50	3.91
8	VFD for Process Fans - Agriculture	K - Industrial Process	$200	$100	$100	$200	$100	4.69	9.37	0.50	9.37
9	VFD for Process Pumps - Agriculture	K - Industrial Process	$200	$100	$100	$200	$100	2.67	5.35	0.50	5.35
10	WFD for Process Pumps - Irrigation	K - Industrial Process	$200	$100	$100	$200	$100	2.31	4.62	0.50	4.62
11	Grain Storage Temperature and Moisture Management Controller	K - Industrial Process	$233	$117	$117	$233	$117	2.54	5.09	0.50	5.09
12	Low Pressure Sprinkler Nozzles	K - Industrial Process	$1	$1	$1	$1	$1	8.04	16.09	0.50	16.09
13	Fan Thermostat Controller	K - Industrial Process	$50	$25	$25	$50	$25	28.72	57.43	0.50	57.43
14	Variable Speed Drive withHeat Exchanger, Milk New	K - Industrial Process	$1	$0	$0	$1	$0	2.03	4.06	0.50	4.06
15	Other Industrial - Low-Energy Livestock Waterer Early Replacement	K - Industrial Process	$179	$90	$90	$179	$90	12.29	24.58	0.50	24.58
16	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	2.94	4.42	0.50	4.42

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

GDS ASSOCIATES - COST EFFECTIVENESS SCREENING TOOL©

INPUT WORKSHEET HVAC

#1	Space Cooling - Chillers	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Air-Cooled Recip Chiller	A- Commercial Cooling	$141	$71	$71	$141	$71	5.84	11.68	4.76	1.23
2	Air-Cooled Screw Chiller	A- Commercial Cooling	$144	$72	$72	$144	$72	5.84	11.69	4.67	1.25
3	Water-Cooled Centrifugal Chiller > 300 ton	A- Commercial Cooling	$27	$14	$14	$27	$14	15.47	30.95	11.88	1.30
4	Water-Cooled Screw Chiller > 300 ton	A- Commercial Cooling	$27	$14	$14	$27	$14	17.98	35.97	11.46	1.57
5	Chiller Tune Up	A- Commercial Cooling	$3	$1	$1	$3	$1	60.92	121.83	44.26	1.38
6	High Efficiency Pumps	A- Commercial Cooling	$97	$48	$48	$97	$48	3.12	6.24	3.03	1.03
7	Efficient Chilled Water Pump	A- Commercial Cooling	$198	$99	$99	$198	$99	51.86	103.73	34.37	1.51
8	Chilled Hot Water Reset	A- Commercial Cooling	$5	$3	$3	$5	$3	20.01	40.03	30.11	0.66
9	VAV System Conversion	A- Commercial Cooling	$2,000	$1,000	$1,000	$2,000	$1,000	5.17	10.33	7.14	0.72
10	Motor Belt Replacement	A- Commercial Cooling	$21	$11	$11	$21	$11	5.66	11.33	5.64	1.00
11	Water-Side Economizer	A- Commercial Cooling	$50	$25	$25	$50	$25	18.54	37.08	25.61	0.72
12	Improved Duct Sealing - Cooling Chiller	C- Commercial Electric Heating and Cooling	$108	$54	$54	$108	$54	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
13	Integrated Building Design	C- Commercial Electric Heating and Cooling	$74,099	$37,050	$37,050	$74,099	$37,050	4.97	9.94	4.43	1.12
14	Energy Efficient Windows	C- Commercial Electric Heating and Cooling	$75	$38	$38	$75	$38	58.93	117.86	70.78	0.83
15	Cool Roof	C- Commercial Electric Heating and Cooling	$665	$332	$332	$665	$332	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
16	Ceiling Insulation	C- Commercial Electric Heating and Cooling	$47	$24	$24	$47	$24	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
17	Wall Insulation	C- Commercial Electric Heating and Cooling	$100	$50	$50	$100	$50	29.46	58.91	24.61	1.20
18	Roof Insulation	C- Commercial Electric Heating and Cooling	$111	$56	$56	$111	$56	2.69	5.39	1.83	1.47
19	Window Improvements	C- Commercial Electric Heating and Cooling	$389	$194	$194	$389	$194	1.45	2.90	1.50	0.97
20	EMS install	C- Commercial Electric Heating and Cooling	$4	$2	$2	$4	$2	253.67	507.34	338.05	0.75
21	EMS Optimization	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	33.63	67.26	39.05	0.86
22	HVAC Occupancy Sensors	C- Commercial Electric Heating and Cooling	$250	$125	$125	$250	$125	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
23	Setback with Electric Heat	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	138.36	276.73	204.66	0.68
24	EMS Pump Scheduling Controls	C- Commercial Electric Heating and Cooling	$507	$254	$254	$507	$254	3.22	6.44	4.10	0.79
25	Web enabled EMS	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	28.01	56.02	59.97	0.47
26	Zoning	C- Commercial Electric Heating and Cooling	$500	$250	$250	$500	$250	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Retrocommissioning	C- Commercial Electric Heating and Cooling	$0	$0	$0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	Air Cooled Recip Chiller-ER	A- Commercial Cooling	$260	$130	$130	$260	$130	2.43	4.86	1.78	1.37
29	Air Cooled Screw Chiller-ER	A- Commercial Cooling	$263	$132	$132	$263	$132	2.81	5.61	2.18	1.29
30	Water Cooled Centrifugal Chiller >300 ton-ER	A- Commercial Cooling	$208	$104	$104	$208	$104	1.87	3.73	1.71	1.09
31	Water Cooled Screw Chiller >300 ton-ER	A- Commercial Cooling	$97	$48	$48	$97	$48	3.88	7.77	1.94	2.00
32	High Efficiency Pumps-ER	A- Commercial Cooling	$164	$82	$82	$164	$82	1.89	3.78	2.01	0.94
33	Energy Efficient Windows-ER	C- Commercial Electric Heating and Cooling	$183	$91	$91	$183	$91	24.72	49.45	29.62	0.83
34	Cool Roof-ER	C- Commercial Electric Heating and Cooling	$2,643	$1,321	$1,321	$2,643	$1,321	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
35	*Add New Measure*										
	Program Totals:	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	4.14	6.21	5.97	0.96

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PRAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#2	Space Cooling - Unitary and Split AC	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	AC 240k - 760k	A- Commercial Cooling	$115	$58	$58	$115	$58	2.30	4.60	1.46	1.57
2	Air Source Heat Pump - Cooling	A- Commercial Cooling	$53	$26	$26	$53	$26	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
3	Ductless (mini split) - Cooling	A- Commercial Cooling	$802	$401	$401	$802	$401	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	Water Loop Heat Pump (WLHP) - Cooling	A- Commercial Cooling	$25	$13	$13	$25	$13	3.86	7.73	3.69	1.05
5	Ground Source Heat Pump - Cooling	A- Commercial Cooling	$180	$90	$90	$180	$90	1.77	3.53	0.88	2.01
6	DX Condenser Coil Cleaning	A- Commercial Cooling	$6	$3	$3	$6	$3	11.02	22.03	5.42	2.03
7	Room A/C	A- Commercial Cooling	$75	$37	$37	$75	$37	8.11	16.21	3.07	2.64
8	Improved Duct Sealing - Cooling AC	C- Commercial Electric Heating and Cooling	$108	$54	$54	$108	$54	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	Integrated Building Design	C- Commercial Electric Heating and Cooling	$74,099	$37,050	$37,050	$74,099	$37,050	4.97	9.94	4.43	1.12
10	Energy Efficient Windows	C- Commercial Electric Heating and Cooling	$75	$38	$38	$75	$38	58.93	117.86	70.78	0.83
11	Cool Roof	C- Commercial Electric Heating and Cooling	$665	$332	$332	$665	$332	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	Ceiling Insulation	C- Commercial Electric Heating and Cooling	$47	$24	$24	$47	$24	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
13	Wall Insulation	C- Commercial Electric Heating and Cooling	$100	$50	$50	$100	$50	29.46	58.91	24.61	1.20
14	Roof Insulation	C- Commercial Electric Heating and Cooling	$111	$56	$56	$111	$56	2.69	5.39	1.83	1.47
15	Window Improvements	C- Commercial Electric Heating and Cooling	$389	$194	$194	$389	$194	1.45	2.90	1.50	0.97
16	Programmable Thermostats	C- Commercial Electric Heating and Cooling	$59	$29	$29	$59	$29	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
17	EMS install	C- Commercial Electric Heating and Cooling	$4	$2	$2	$4	$2	253.67	507.34	338.05	0.75
18	EMS Optimization	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	33.63	67.26	39.05	0.86
19	HVAC Occupancy Sensors	C- Commercial Electric Heating and Cooling	$250	$125	$125	$250	$125	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
20	Setback with Electric Heat	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	138.36	276.73	204.66	0.68
21	EMS Pump Scheduling Controls	C- Commercial Electric Heating and Cooling	$507	$254	$254	$507	$254	3.22	6.44	4.10	0.79
22	Web enabled EMS	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	28.01	56.02	59.97	0.47
23	Zoning	C- Commercial Electric Heating and Cooling	$500	$250	$250	$500	$250	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
24	Retrocommissioning	C- Commercial Electric Heating and Cooling	$0	$0	$0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	AC 240k - 760k-ER	A- Commercial Cooling	$272	$136	$136	$272	$136	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	Air Source Heat Pump-Cooling-ER	A- Commercial Cooling	$375	$187	$187	$375	$187	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Ductless Mini Split-Cooling -ER	A- Commercial Cooling	$907	$454	$454	$907	$454	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	Water Loop Heat Pump(WLHP) Cooling-ER	A- Commercial Cooling	$816	$408	$408	$816	$408	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
29	Ground Source Heat Pump-Cooling-ER	A- Commercial Cooling	$274	$137	$137	$274	$137	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
30	Room A/C-ER	A- Commercial Cooling	$112	$56	$56	$112	$56	5.49	10.97	2.23	2.46
31	Energy Efficient Windows-ER	C- Commercial Electric Heating and Cooling	$183	$91	$91	$183	$91	24.72	49.45	29.62	0.83
32	Cool Roof-ER	C- Commercial Electric Heating and Cooling	$2,643	$1,321	$1,321	$2,643	$1,321	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
33	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	3.64	5.46	5.29	0.94

#3	Space Heating	Ratio: TRC									
								Measure Level Ratios			
	Measure Name	Measure Type	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Air Source Heat Pump - Heating	B- Commercial Electric Heating	$210	$105	$105	$210	$105	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	Ground Source Heat Pump - Heating	B- Commercial Electric Heating	$180	$90	$90	$180	$90	2.85	5.71	2.37	1.20
3	Ductless (mini split) - Heating	B- Commercial Electric Heating	$641	$321	$321	$641	$321	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	VFD Pumps	B- Commercial Electric Heating	$4,535	$2,268	$2,268	$4,535	$2,268	5.63	11.27	6.37	0.88
5	ECM motors on furnaces	B- Commercial Electric Heating	$1,250	$625	$625	$1,250	$625	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Water Loop Heat Pump (WLHP) - Heating	B- Commercial Electric Heating	$20	$10	$10	$20	$10	1.26	2.53	2.22	0.57
7	Improved Duct Sealing - Heating	C- Commercial Electric Heating and Cooling	$108	$54	$54	$108	$54	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8	Integrated Building Design	C- Commercial Electric Heating and Cooling	$74,099	$37,050	$37,050	$74,099	$37,050	4.97	9.94	4.43	1.12
9	Energy Efficient Windows	C- Commercial Electric Heating and Cooling	$75	$38	$38	$75	$38	58.93	117.86	70.78	0.83
10	Cool Roof	C- Commercial Electric Heating and Cooling	$665	$332	$332	$665	$332	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
11	Ceiling Insulation	C- Commercial Electric Heating and Cooling	$47	$24	$24	$47	$24	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	Wall Insulation	C- Commercial Electric Heating and Cooling	$100	$50	$50	$100	$50	29.46	58.91	24.61	1.20
13	Roof Insulation	C- Commercial Electric Heating and Cooling	$111	$56	$56	$111	$56	2.69	5.39	1.83	1.47
14	Window Improvements	C- Commercial Electric Heating and Cooling	$389	$194	$194	$389	$194	1.45	2.90	1.50	0.97
15	Programmable Thermostats	C- Commercial Electric Heating and Cooling	$59	$29	$29	$59	$29	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
16	EMS install	C- Commercial Electric Heating and Cooling	$4	$2	$2	$4	$2	253.67	507.34	338.05	0.75
17	EMS Optimization	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	33.63	67.26	39.05	0.86
18	HVAC Occupancy Sensors	C- Commercial Electric Heating and Cooling	$250	$125	$125	$250	$125	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	Setback with Electric Heat	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	138.36	276.73	204.66	0.68
20	EMS Pump Scheduling Controls	C- Commercial Electric Heating and Cooling	$507	$254	$254	$507	$254	3.22	6.44	4.10	0.79
21	Web enabled EMS	C- Commercial Electric Heating and Cooling	$50	$25	$25	$50	$25	28.01	56.02	59.97	0.47
22	Destratification Fan (HVLS)	C- Commercial Electric Heating and Cooling	$13	$6	$6	$13	$6	2.50	5.01	2.10	1.19
23	Retrocommissioning	C- Commercial Electric Heating and Cooling	$0	$0	$0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
24	Air Source Heat Pump-Heating-ER	B- Commercial Electric Heating	$513	$256	$256	$513	$256	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	Ground Source Heat Pump-Heating-ER	B- Commercial Electric Heating	$274	$137	$137	$274	$137	1.41	2.81	1.09	1.29
26	Ductless Mini Split-Heating -ER	B- Commercial Electric Heating	$907	$454	$454	$907	$454	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Water Loop Heat Pump(WLHP) Heating-ER	B- Commercial Electric Heating	$116	$58	$58	$116	$58	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	Energy Efficient Windows-ER	C- Commercial Electric Heating and Cooling	$183	$91	$91	$183	$91	24.72	49.45	29.62	0.83
29	Cool Roof-ER	C- Commercial Electric Heating and Cooling	$2,643	$1,321	$1,321	$2,643	$1,321	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
30	*Add New Measure*										
	Program Totals:	n/a	n/a	n/a	n/a	n/a	n/a	3.14	4.71	4.68	0.91

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

GDS ASSOCIATES - COST EFFECTIVENESS SCREENING TOOL©

INPUT WORKSHEET MAP NonHVAC

#1 Office Equipment Ratio: TRC

	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
			6,353	$20.00				$1.00	Measure Level Ratios				
1	Energy Star Compliant Refrigerator-ROB	A - Commercial Office Equipment	-	$750.00	$0.00	$375.00	$1,125.00	$750.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	Energy Star office equipment including computers, monitors, cop	A - Commercial Office Equipment	1,464	$137.00	$0.00	$68.50	$205.50	$137.00	3.54	3.54	3.54	1.00	3.54
3	Smart Strip plug outlet	A - Commercial Office Equipment	-	$40.00	$0.00	$20.00	$60.00	$40.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	PC Network Energy Management Controls replacing no central c	A - Commercial Office Equipment	4,239	$20.00	$0.00	$10.00	$30.00	$20.00	3.34	3.34	3.34	1.00	3.34
5	Energy Star UPS-ROB	A - Commercial Office Equipment	-	$1,303.35	$0.00	$651.68	$1,955.03	$1,303.35	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	High Efficiency CRAC unit-ROB	A - Commercial Office Equipment	650	$82.50	$0.00	$41.25	$123.75	$82.50	2.24	2.24	2.24	1.00	2.24
7	Energy Star Compliant Refrigerator-ER	A - Commercial Office Equipment	-	$802.02	$0.00	$401.01	$1,203.03	$802.02	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8	Energy Star office equipment including computers, monitors, cop	A - Commercial Office Equipment	4,706	$226.78	$0.00	$113.39	$340.17	$226.78	2.14	2.14	2.14	1.00	2.14
9	Energy Star UPS-ER	A - Commercial Office Equipment	-	$1,407.36	$0.00	$703.68	$2,111.04	$1,407.36	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
10	High Efficiency CRAC unit-ER	A - Commercial Office Equipment	254	$112.59	$0.00	$56.30	$168.89	$112.59	1.64	1.64	1.64	1.00	1.64
11	*Add New Measure*				$0.00	$0.00	$0.00						
	Program Totals:	**n/a**	**n/a**	**n/a**				**n/a**	1.60	1.60	1.60	1.00	1.60

#2 Water Heating Ratio: TRC

	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
			8,411						Measure Level Ratios				
1	Heat Punp Water Heater-ROB	G - Commercial Electric DHW	1	$10,600.00	$0.00	$5,300.00	$15,900.00	$10,600.00	22.38	22.38	22.38	1.00	22.38
2	Heat Pump Storage Wtaer Heater-ROB	G - Commercial Electric DHW	330	$83.00	$0.00	$41.50	$124.50	$83.00	6.04	6.04	6.04	1.00	6.04
3	Electric Tankless Water Heater-ROB	G - Commercial Electric DHW	14	$466.00	$0.00	$233.00	$699.00	$466.00	2.41	2.41	2.41	1.00	2.41
4	Low Flow Faucet Aerator	G - Commercial Electric DHW	2,088	$2.50	$0.00	$1.25	$3.75	$2.50	277.98	277.98	277.98	1.00	277.98
5	Low Flow Showerhead	G - Commercial Electric DHW	-	$25.00	$0.00	$12.50	$37.50	$25.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Hot Water (DHW) Pipe Insulation	G - Commercial Electric DHW	5,352	$10.00	$0.00	$5.00	$15.00	$10.00	7.20	7.20	7.20	1.00	7.20
7	Tank Insulation (electric)	G - Commercial Electric DHW	370	$2.35	$0.00	$1.18	$3.53	$2.35	221.12	221.12	221.12	1.00	221.12
8	ECM Circulator Pump	G - Commercial Electric DHW	20	$2,266.67	$0.00	$1,133.34	$3,400.01	$2,266.67	2.69	2.69	2.69	1.00	2.69
9	Drain water Heat Recovery Water Heater	G - Commercial Electric DHW	3	$631.00	$0.00	$315.50	$946.50	$631.00	1.49	1.49	1.49	1.00	1.49
10	Efficient Hot Water Pump-ROB	G - Commercial Electric DHW	181	$33.00	$0.00	$16.50	$49.50	$33.00	19.13	19.13	19.13	1.00	19.13
11	HVAC Condenser Heater Recovery Water Heating	G - Commercial Electric DHW	21	$254.00	$0.00	$127.00	$381.00	$254.00	39.58	39.58	39.58	1.00	39.58
12	Process Cooling Condenser Heater Recovery Water Heating	G - Commercial Electric DHW	31	$254.00	$0.00	$127.00	$381.00	$254.00	29.61	29.61	29.61	1.00	29.61
13	Heat Punp Water Heater-ER	G - Commercial Electric DHW	0	$13,846.00	$0.00	$6,923.00	$20,769.00	$13,846.00	17.14	17.14	17.14	1.00	17.14
14	Heat Pump Storage Water Heater-ER	G - Commercial Electric DHW	59	$231.30	$0.00	$115.65	$346.95	$231.30	2.17	2.17	2.17	1.00	2.17
15	Electric Tankless Water Heater-ER	G - Commercial Electric DHW	14	$681.21	$0.00	$340.61	$1,021.82	$681.21	1.65	1.65	1.65	1.00	1.65
16	Efficient Hot Water Pump-ER	G - Commercial Electric DHW	160	$61.11	$0.00	$30.56	$91.67	$61.11	10.33	10.33	10.33	1.00	10.33
17	*Add New Measure*												
	Program Totals:	**n/a**	**n/a**	**n/a**				**n/a**	10.77	10.77	10.77	1.00	10.77

#3 Ventilation Ratio: TRC

	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
			172,355						Measure Level Ratios				
1	Economizer	C - Commercial Ventilation	-	$101.00	$0.00	$50.50	$151.50	$101.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	Variable Speed Drive Control, 15 HP	C - Commercial Ventilation	255	$3,690.00	$0.00	$1,845.00	$5,535.00	$3,690.00	6.25	6.25	6.25	1.00	6.25
3	Variable Speed Drive Control, 5 HP	C - Commercial Ventilation	766	$1,230.00	$0.00	$615.00	$1,845.00	$1,230.00	6.25	6.25	6.25	1.00	6.25
4	Variable Speed Drive Control, 40 HP	C - Commercial Ventilation	96	$9,840.00	$0.00	$4,920.00	$14,760.00	$9,840.00	6.25	6.25	6.25	1.00	6.25
5	High Speed Fans	C - Commercial Ventilation	-	$675.00	$0.00	$337.50	$1,012.50	$675.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	High Volume Low Speed Fans	C - Commercial Ventilation	-	$375.00	$0.00	$187.50	$562.50	$375.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	Destratification Fans (HVLS)	C - Commercial Ventilation	171,238	$12.75	$0.00	$6.38	$19.13	$12.75	2.46	2.46	2.46	1.00	2.46
8	Engineered CKV hood	C - Commercial Ventilation	-	$316.00	$0.00	$158.00	$474.00	$316.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	*Add New Measure*		-		$0.00	$0.00	$0.00						
	Program Totals:	**n/a**	**n/a**	**n/a**				**n/a**	3.07	3.07	3.07	1.00	3.07

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#4	Lighting	Ratio: TRC							Measure Level Ratios				
			6,397,976										
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
1	Lamp & Ballast Retrofit (HPT8 Replacing T12)	H - Commercial Lighting	115,469	$11.00	$0.00	$5.50	$16.50	$11.00	6.23	6.23	6.23	1.00	6.23
2	Lamp & Ballast Retrofit (HPT8 Replacing Standard T8)	H - Commercial Lighting	99,271	$11.00	$0.00	$5.50	$16.50	$11.00	2.22	2.22	2.22	1.00	2.22
3	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing T12)	H - Commercial Lighting	62,368	$37.00	$0.00	$18.50	$55.50	$37.00	3.33	3.33	3.33	1.00	3.33
4	Lamp & Ballast Retrofit (Low Wattage HPT8 Replacing Standard	H - Commercial Lighting	72,653	$37.00	$0.00	$18.50	$55.50	$37.00	1.90	1.90	1.90	1.00	1.90
5	T5 HP Retrofits	H - Commercial Lighting	7,192	$366.00	$0.00	$183.00	$549.00	$366.00	2.95	2.95	2.95	1.00	2.95
6	Light Tube	H - Commercial Lighting	-	$500.00	$0.00	$250.00	$750.00	$500.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	High Intensity Fluorescent Fixture (replacing HID)	H - Commercial Lighting	9,238	$284.00	$0.00	$142.00	$426.00	$284.00	5.07	5.07	5.07	1.00	5.07
8	42W 8 lamp Hi Bay CFL	H - Commercial Lighting	-	$496.40	$0.00	$248.20	$744.60	$496.40	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	HID Fixture Upgrade - Pulse Start Metal Halide	H - Commercial Lighting	3,270	$162.00	$0.00	$81.00	$243.00	$162.00	5.59	5.59	5.59	1.00	5.59
10	Interior induction Lighting-ROB	H - Commercial Lighting	1,251,121	$1.53	$0.00	$0.77	$2.30	$1.53	3.86	3.86	3.86	1.00	3.86
11	LED Screw In (replacing Incandescent)	H - Commercial Lighting	7,464	$28.00	$0.00	$14.00	$42.00	$28.00	3.77	3.77	3.77	1.00	3.77
12	LED Screw In (replacing CFL)	H - Commercial Lighting	-	$12.00	$0.00	$6.00	$18.00	$12.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
13	LED High bay lighting	H - Commercial Lighting	2,300	$2,900.00	$0.00	$1,450.00	$4,350.00	$2,900.00	2.05	2.05	2.05	1.00	2.05
14	LED low bay lighting	H - Commercial Lighting	1,410	$298.00	$0.00	$149.00	$447.00	$298.00	8.56	8.56	8.56	1.00	8.56
15	LED Downlight	H - Commercial Lighting	256	$61.00	$0.00	$30.50	$91.50	$61.00	4.63	4.63	4.63	1.00	4.63
16	LED Specialty (replacing Incandescent)	H - Commercial Lighting	10,873	$23.00	$0.00	$11.50	$34.50	$23.00	4.10	4.10	4.10	1.00	4.10
17	LED Specialty (replacing CFL)	H - Commercial Lighting	-	$10.17	$0.00	$5.09	$15.26	$10.17	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
18	LED Troffer	H - Commercial Lighting	-	$125.00	$0.00	$62.50	$187.50	$125.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	LED Tube Lighting	H - Commercial Lighting	125,788	$30.00	$0.00	$15.00	$45.00	$30.00	2.07	2.07	2.07	1.00	2.07
20	LED Grow Light	H - Commercial Lighting	1,951,172	$1.53	$0.00	$0.77	$2.30	$1.53	2.79	2.79	2.79	1.00	2.79
21	Interior Non Highbay/Lowbay LED Fixtures	H - Commercial Lighting	2,646,558	$2.67	$0.00	$1.34	$4.01	$2.67	1.55	1.55	1.55	1.00	1.55
22	Illuminated Signs to LED	H - Commercial Lighting	-	$4.00	$0.00	$2.00	$6.00	$4.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
23	LED Exit Sign	H - Commercial Lighting	3,128	$64.00	$0.00	$32.00	$96.00	$64.00	4.72	4.72	4.72	1.00	4.72
24	Exterior HID replacement with LEDs	H - Commercial Lighting	-	$753.67	$0.00	$376.84	$1,130.51	$753.67	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	Garage HID replacement with LEDs	H - Commercial Lighting	-	$566.67	$0.00	$283.34	$850.01	$566.67	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	Exterior Linear Fluorescent-ROB	H - Commercial Lighting	-	$566.67	$0.00	$283.34	$850.01	$566.67	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Central Lighting Control	H - Commercial Lighting	1,190	$2,700.00	$0.00	$1,350.00	$4,050.00	$2,700.00	3.19	3.19	3.19	1.00	3.19
28	Daylight Sensor Controls	H - Commercial Lighting	1,412	$3,000.00	$0.00	$1,500.00	$4,500.00	$3,000.00	3.62	3.62	3.62	1.00	3.62
29	Occupancy Sensor	H - Commercial Lighting	13,122	$98.00	$0.00	$49.00	$147.00	$98.00	3.23	3.23	3.23	1.00	3.23
30	Occupancy Sensor & Daylight Sensor	H - Commercial Lighting	9,878	$278.00	$0.00	$139.00	$417.00	$278.00	2.01	2.01	2.01	1.00	2.01
31	Switching Controls for Multilevel Lighting (Non-HID)	H - Commercial Lighting	1,066	$3,000.00	$0.00	$1,500.00	$4,500.00	$3,000.00	2.72	2.72	2.72	1.00	2.72
32	Lighting Power Density - Interior	H - Commercial Lighting	239	$220.00	$0.00	$110.00	$330.00	$220.00	15.24	15.24	15.24	1.00	15.24
33	Lighting Power Density - Exterior-ROB	H - Commercial Lighting	261	$220.00	$0.00	$110.00	$330.00	$220.00	13.85	13.85	13.85	1.00	13.85
34	Lighting Power Density - Parking Garage-ROB	H - Commercial Lighting	12	$220.00	$0.00	$110.00	$330.00	$220.00	35.41	35.41	35.41	1.00	35.41
35	Stairwell Bi-Level Control	H - Commercial Lighting	242	$825.00	$0.00	$412.50	$1,237.50	$825.00	3.97	3.97	3.97	1.00	3.97
36	Exterior BiLevel Controls	H - Commercial Lighting	129	$3,700.00	$0.00	$1,850.00	$5,550.00	$3,700.00	3.87	3.87	3.87	1.00	3.87
37	Garage BiLevel Controls	H - Commercial Lighting	892	$500.00	$0.00	$250.00	$750.00	$500.00	1.77	1.77	1.77	1.00	1.77
38	Long Day Lighting Dairy	H - Commercial Lighting	-	$2.00	$0.00	$1.00	$3.00	$2.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00
39	Poultry LED Lighting	H - Commercial Lighting	-	$1.53	$0.00	$0.77	$2.30	$1.53	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
40	Interior induction Lighting-ER	H - Commercial Lighting	1,014,819	$1.70	$0.00	$0.85	$2.55	$1.70	3.47	3.47	3.47	1.00	3.47
41	Exterior Linear Fluorescent-ER	H - Commercial Lighting	-	$830.10	$0.00	$415.05	$1,245.15	$830.10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
42	Lighting Power Density - Exterior-ER	H - Commercial Lighting	405	$233.63	$0.00	$116.82	$350.45	$233.63	13.05	13.05	13.05	1.00	13.05
43	Lighting Power Density - Parking Garage-ER	H - Commercial Lighting	19	$233.63	$0.00	$116.82	$350.45	$233.63	33.34	33.34	33.34	1.00	33.34
44	*Add New Measure*												
	Program Totals:	n/a	n/a	n/a				n/a	1.94	1.94	1.94	1.00	1.94

#5	Other	Ratio: TRC							Measure Level Ratios				
			19,422										
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
1	NEMA Premium Transformer, single-phase-ROB	J - Other - C/I	-	$11.98	$0.00	$5.99	$17.97	$11.98	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	NEMA Premium Transformer, three-phase-ROB	J - Other - C/I	2,331	$10.46	$0.00	$5.23	$15.69	$10.46	1.29	1.29	1.29	1.00	1.29
3	High Efficiency Transformer, single-phase-ROB	J - Other - C/I	13,441	$1.54	$0.00	$0.77	$2.31	$1.54	1.82	1.82	1.82	1.00	1.82
4	High Efficiency Transformer, three-phase-ROB	J - Other - C/I	3,281	$6.08	$0.00	$3.04	$9.12	$6.08	1.82	1.82	1.82	1.00	1.82
5	Optimized Snow and Ice Melt Controls (electric)	J - Other - C/I	-	$15.15	$0.00	$7.58	$22.73	$15.15	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Engine Block Heater Timer	J - Other - C/I	284	$35.00	$0.00	$17.50	$52.50	$35.00	23.78	23.78	23.78	1.00	23.78
7	Parking Garage Exhaust Fan CO Control	J - Other - C/I	84	$900.00	$0.00	$450.00	$1,350.00	$900.00	2.76	2.76	2.76	1.00	2.76
8	NEMA Premium Transformer, single-phase-ER	J - Other - C/I	-	$15.00	$0.00	$7.50	$22.50	$15.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	NEMA Premium Transformer, three-phase-ER	J - Other - C/I	-	$14.00	$0.00	$7.00	$21.00	$14.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
10	High Efficiency Transformer, single-phase-ER	J - Other - C/I	-	$2.35	$0.00	$1.18	$3.53	$2.35	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
11	High Efficiency Transformer, three-phase-ER	J - Other - C/I	-	$10.00	$0.00	$5.00	$15.00	$10.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	*Add New Measure*												
	Program Totals:	n/a	n/a	n/a				n/a	2.44	2.44	2.44	1.00	2.44

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#6	Machine Drive	Ratio: TRC	304,197,697						Measure Level Ratios				
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
1	Advanced Lubricants	K - Industrial Process	68,116,759	$0.00	$0.00	$0.00	$0.00	$0.00	114.86	114.86	114.86	1.00	114.86
2	Compressed Air System Management	K - Industrial Process	102,107,771	$0.00	$0.00	$0.00	$0.00	$0.00	71.82	71.82	71.82	1.00	71.82
3	Compressed Air - Advanced Compressor Controls	K - Industrial Process	2,365,220	$0.05	$0.00	$0.03	$0.08	$0.05	29.18	29.18	29.18	1.00	29.18
4	Elec Motors Replacing Pneumatic (Comp Air)	K - Industrial Process	1,788	$620.00	$0.00	$310.00	$930.00	$620.00	22.75	22.75	22.75	1.00	22.75
5	Compressed Air Audits and Leak Repair	K - Industrial Process	343,563	$4.00	$0.00	$2.00	$6.00	$4.00	11.55	11.55	11.55	1.00	11.55
6	Storage Tank Addition (Comp Air)	K - Industrial Process	6,811	$24.00	$0.00	$12.00	$36.00	$24.00	23.74	23.74	23.74	1.00	23.74
7	VFD for Process Fans	K - Industrial Process	13,357	$200.00	$0.00	$100.00	$300.00	$200.00	5.58	5.58	5.58	1.00	5.58
8	Automatic Drains, High Efficiency Nozzles and Other (Comp Air)	K - Industrial Process	913	$355.00	$0.00	$177.50	$532.50	$355.00	1.82	1.82	1.82	1.00	1.82
9	VFD for Process Pumps	K - Industrial Process	46,162	$200.00	$0.00	$100.00	$300.00	$200.00	5.74	5.74	5.74	1.00	5.74
10	Pump System Efficiency Improvements	K - Industrial Process	23,088,060	$0.01	$0.00	$0.00	$0.01	$0.01	182.40	182.40	182.40	1.00	182.40
11	Motor System Optimization (Including ASD)	K - Industrial Process	73,106,321	$0.01	$0.00	$0.00	$0.01	$0.01	162.13	162.13	162.13	1.00	162.13
12	Electric Supply System Improvements	K - Industrial Process	16,560,142	$0.01	$0.00	$0.01	$0.02	$0.01	145.92	145.92	145.92	1.00	145.92
13	Sensors & Controls	K - Industrial Process	6,211,677	$0.01	$0.00	$0.01	$0.02	$0.01	104.23	104.23	104.23	1.00	104.23
14	Industrial Motor Management	K - Industrial Process	8,540,696	$0.02	$0.00	$0.01	$0.03	$0.02	29.51	29.51	29.51	1.00	29.51
15	Fan System Improvements	K - Industrial Process	1,837,048	$0.02	$0.00	$0.01	$0.04	$0.02	60.80	60.80	60.80	1.00	60.80
16	High Efficiency Pumps ROB	K - Industrial Process	42,988	$31.00	$0.00	$15.50	$46.50	$31.00	22.04	22.04	22.04	1.00	22.04
17	Advanced Efficient Motors ROB	K - Industrial Process	-	$4.55	$0.00	$2.28	$6.83	$4.55	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
18	High Efficiency Dryers (Comp Air) ROB	K - Industrial Process	62,397	$4.00	$0.00	$2.00	$6.00	$4.00	14.50	14.50	14.50	1.00	14.50
19	Energy Information System	K - Industrial Process	1,746,023	$0.06	$0.00	$0.03	$0.09	$0.06	23.92	23.92	23.92	1.00	23.92
20	Advanced Efficient Motors - Early Replacement	K - Industrial Process	-	$34.20	$0.00	$17.10	$51.30	$34.20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
21	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	K - Industrial Process	880	$1,482.00	$0.00	$741.00	$2,223.00	$1,482.00	3.52	3.52	3.52	1.00	3.52
22	Air-Entraining Air Nozzles	K - Industrial Process	766	$98.00	$0.00	$49.00	$147.00	$98.00	113.58	113.58	113.58	1.00	113.58
23	Compressed Air-Fixed Speed Air Compressor - ROB	K - Industrial Process	9,543	$30.00	$0.00	$15.00	$45.00	$30.00	44.67	44.67	44.67	1.00	44.67
24	Compressed Air-Fixed Speed Air Compressor - Early Replacement	K - Industrial Process	8,107	$81.87	$0.00	$40.94	$122.81	$81.87	16.37	16.37	16.37	1.00	16.37
25	High Efficiency Dryers (comp air) - Early Replacement	K - Industrial Process	77,164	$6.18	$0.00	$3.09	$9.27	$6.18	9.38	9.38	9.38	1.00	9.38
26	High Efficiency Pumps - Early Replacement	K - Industrial Process	43,708	$99.13	$0.00	$49.57	$148.70	$99.13	6.89	6.89	6.89	1.00	6.89
27	Receiver Capacity Addition	K - Industrial Process	390	$2,000.00	$0.00	$1,000.00	$3,000.00	$2,000.00	4.62	4.62	4.62	1.00	4.62
28	Synchronous belt drives	K - Industrial Process	320,985	$6.48	$0.00	$3.24	$9.72	$6.48	7.94	7.94	7.94	1.00	7.94
29	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	K - Industrial Process	10,491	$190.00	$0.00	$95.00	$285.00	$190.00	23.53	23.53	23.53	1.00	23.53
30	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - Early Replacement	K - Industrial Process	12,274	$241.87	$0.00	$120.94	$362.81	$241.87	18.48	18.48	18.48	1.00	18.48
31	VSD Air Compressor-Install VSD Air Compressor for Trim	K - Industrial Process	8,160	$669.00	$0.00	$334.50	$1,003.50	$669.00	2.88	2.88	2.88	1.00	2.88
32	*Add New Measure*	K - Industrial Process											
	Program Totals:	n/a	n/a	n/a				n/a	9.68	9.68	9.68	1.00	9.68

#7	Industrial Other	Ratio: TRC	55,141						Measure Level Ratios				
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
1	Barrel Insulation - Inj. Molding (Plastics)	K - Industrial Process	61	$80.00	$0.00	$40.00	$120.00	$80.00	14.97	14.97	14.97	1.00	14.97
2	High Efficiency Welders ROB	K - Industrial Process	16	$300.00	$0.00	$150.00	$450.00	$300.00	6.37	6.37	6.37	1.00	6.37
3	Pellet Dryer Insulation (Plastics)	K - Industrial Process	296	$40.00	$0.00	$20.00	$60.00	$40.00	6.77	6.77	6.77	1.00	6.77
4	3 Phase High Eff Battery Charger ROB	K - Industrial Process	15	$872.50	$0.00	$436.25	$1,308.75	$872.50	4.28	4.28	4.28	1.00	4.28
5	Injection Molding Machine - Efficient (Plastics)	K - Industrial Process	314	$175.00	$0.00	$87.50	$262.50	$175.00	2.31	2.31	2.31	1.00	2.31
6	Fiber Laser Replacing CO2 Laser (Auto Industry) ROB	K - Industrial Process	10	$5,000.00	$0.00	$2,500.00	$7,500.00	$5,000.00	9.57	9.57	9.57	1.00	9.57
7	Lab Fume Hood Ventilation Reduction	K - Industrial Process	3,430	$4.00	$0.00	$2.00	$6.00	$4.00	3.52	3.52	3.52	1.00	3.52
8	Process Fan Ventilation Reduction	K - Industrial Process	50,472	$2.00	$0.00	$1.00	$3.00	$2.00	1.52	1.52	1.52	1.00	1.52
9	Hybrid Injection Molding Machine ROB	K - Industrial Process	526	$75.00	$0.00	$37.50	$112.50	$75.00	4.75	4.75	4.75	1.00	4.75
10	3 Phase High Eff Battery Charger - Early Replacement	K - Industrial Process	16	$1,312.55	$0.00	$656.28	$1,968.83	$1,312.55	2.24	2.24	2.24	1.00	2.24
11	Fiber Laser Replacing CO2 laser (auto industry) - Early Replacement	K - Industrial Process	2	$21,767.00	$0.00	$10,883.50	$32,650.50	$21,767.00	2.20	2.20	2.20	1.00	2.20
12	High Efficiency Welders - Early Replacement	K - Industrial Process	15	$635.00	$0.00	$317.50	$952.50	$635.00	3.01	3.01	3.01	1.00	3.01
13	High Speed Turbo Blower for Wastewater	K - Industrial Process	5	$1,100.00	$0.00	$550.00	$1,650.00	$1,100.00	2.23	2.23	2.23	1.00	2.23
14	Hybrid Injection Molding Machine - Early Replacement	K - Industrial Process	377	$189.23	$0.00	$94.62	$283.85	$189.23	1.88	1.88	1.88	1.00	1.88
15	Industrial Air Curtain	K - Industrial Process	3,586	$45.00	$0.00	$22.50	$67.50	$45.00	3.17	3.17	3.17	1.00	3.17
16	On-Demand ventilation control for Dust and Fume Collection Systems	K - Industrial Process	39	$766.00	$0.00	$383.00	$1,149.00	$766.00	4.39	4.39	4.39	1.00	4.39
17	*Add New Measure*												
	Program Totals:	n/a	n/a	n/a				n/a	2.31	2.31	2.31	1.00	2.31

#8	Process Cooling & Refrigeration	Ratio: TRC	17,259,768						Measure Level Ratios				
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
1	Improved Refrigeration	K - Industrial Process	10,438,423	$0.03	$0.00	$0.02	$0.05	$0.03	48.64	48.64	48.64	1.00	48.64
2	Electric Supply System Improvements	K - Industrial Process	3,294,715	$0.01	$0.00	$0.01	$0.02	$0.01	145.92	145.92	145.92	1.00	145.92
3	Sensors & Controls	K - Industrial Process	2,749,297	$0.01	$0.00	$0.01	$0.02	$0.01	104.23	104.23	104.23	1.00	104.23
4	Energy Information System	K - Industrial Process	777,332	$0.06	$0.00	$0.03	$0.09	$0.06	23.92	23.92	23.92	1.00	23.92
5	Evaporator Fan Motor Controls	K - Industrial Process	-	$621.00	$0.00	$310.50	$931.50	$621.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Floating Head Pressure Control	K - Industrial Process	2,679	$120.00	$0.00	$60.00	$180.00	$120.00	9.39	9.39	9.39	1.00	9.39
7	Refrigerant charging correction	K - Industrial Process	165,487	$10.36	$0.00	$5.18	$15.54	$10.36	3.67	3.67	3.67	1.00	3.67
8	Evaporator Motor Reduction - ROB	K - Industrial Process	41,604	$0.50	$0.00	$0.25	$0.75	$0.50	134.42	134.42	134.42	1.00	134.42
9	Evaporator Motor Reduction - Early Replacement	K - Industrial Process	49,974	$3.54	$0.00	$1.77	$5.31	$3.54	18.99	18.99	18.99	1.00	18.99
10	*Add New Measure*												
	Program Totals:	n/a	n/a	n/a				n/a	10.17	10.17	10.17	1.00	10.17

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#9	Process Heating	Ratio: TRC	13,438,914						Measure Level Ratios				
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
1	Electric Supply System Improvements	K - Industrial Process	6,209,037	$0.01	$0.00	$0.01	$0.02	$0.01	145.92	145.92	145.92	1.00	145.92
2	Sensors & Controls	K - Industrial Process	5,280,777	$0.01	$0.00	$0.01	$0.02	$0.01	104.23	104.23	104.23	1.00	104.23
3	Energy Information System	K - Industrial Process	1,949,099	$0.06	$0.00	$0.03	$0.09	$0.06	23.92	23.92	23.92	1.00	23.92
4	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	K - Industrial Process	2,588	$500.00	$0.00	$250.00	$750.00	$500.00	1.77	1.77	1.77	1.00	1.77
5	*Add New Measure*												
	Program Totals:	n/a	n/a	n/a				n/a	9.43	9.43	9.43	1.00	9.43

#10	Agriculture	Ratio: TRC	2,392,949						Measure Level Ratios				
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Societal	TRC	Direct Utility	Participant	RIM
1	Other Industrial - Low-Energy Livestock Waterer ROB	K - Industrial Process	272	$92.00	$0.00	$46.00	$138.00	$92.00	23.64	23.64	23.64	1.00	23.64
2	Other Industrial - Dairy Refrigerator Tune-Up	K - Industrial Process	-	$0.05	$0.00	$0.03	$0.08	$0.05	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
3	Greenhouse Environmental Controls	K - Industrial Process	-	$125.00	$0.00	$62.50	$187.50	$125.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	K - Industrial Process	-	$1,500.00	$0.00	$750.00	$2,250.00	$1,500.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
5	Variable Speed Drive with Heat Exchanger, Milk	K - Industrial Process	-	$2.20	$0.00	$1.10	$3.30	$2.20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Milk Pre-Cooler Heat Exchanger	K - Industrial Process	1,680,944	$0.15	$0.00	$0.08	$0.23	$0.15	13.03	13.03	13.03	1.00	13.03
7	Variable Speed Drives for Dairy Vacuum Pumps	K - Industrial Process	1,753	$356.00	$0.00	$178.00	$534.00	$356.00	1.89	1.89	1.89	1.00	1.89
8	VFD for Process Fans - Agriculture	K - Industrial Process	2,443	$200.00	$0.00	$100.00	$300.00	$200.00	4.53	4.53	4.53	1.00	4.53
9	VFD for Process Pumps - Agriculture	K - Industrial Process	7,963	$200.00	$0.00	$100.00	$300.00	$200.00	2.53	2.53	2.53	1.00	2.53
10	WFD for Process Pumps - Irrigation	K - Industrial Process	14,812	$200.00	$0.00	$100.00	$300.00	$200.00	2.20	2.20	2.20	1.00	2.20
11	Grain Storage Temperature and Moisture Management Controller	K - Industrial Process	2,489	$233.00	$0.00	$116.50	$349.50	$233.00	2.40	2.40	2.40	1.00	2.40
12	Low Pressure Sprinkler Nozzles	K - Industrial Process	153,205	$1.00	$0.00	$0.50	$1.50	$1.00	7.95	7.95	7.95	1.00	7.95
13	Fan Thermostat Controller	K - Industrial Process	1,308	$50.00	$0.00	$25.00	$75.00	$50.00	28.29	28.29	28.29	1.00	28.29
14	Variable Speed Drive withHeat Exchanger, Milk New	K - Industrial Process	527,760	$0.50	$0.00	$0.25	$0.75	$0.50	1.91	1.91	1.91	1.00	1.91
15	Other Industrial - Low-Energy Livestock Waterer Early Replacement	K - Industrial Process	346	$179.08	$0.00	$89.54	$268.62	$179.08	12.15	12.15	12.15	1.00	12.15
16	*Add New Measure*												
	Program Totals:	n/a	n/a	n/a				n/a	2.22	2.22	2.22	1.00	2.22

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

GDS ASSOCIATES - COST EFFECTIVENESS SCREENING TOOL©

INPUT WORKSHEET MAP HVAC

20 100%

#1 Space Cooling - Chillers Ratio: TRC 8,012

	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost	Per Unit Total Participant Cost	Per Unit Total Utility Admin Cost	Per Unit Total Utility Cost	Per Unit Rebate - Incentive	Measure Level Ratios TRC	Direct Utility	Participant	RIM
1	Air-Cooled Recip Chiller	A- Commercial Cooling	1,724	$141.0	$0.0	$70.5	$211.5	$141.0	5.78	5.78	5.23	1.10
2	Air-Cooled Screw Chiller	A- Commercial Cooling	1,754	$143.9	$1.0	$72.0	$215.9	$143.9	5.78	5.78	5.14	1.12
3	Water-Cooled Centrifugal Chiller > 300 ton	A- Commercial Cooling	669	$27.3	$2.0	$13.7	$41.0	$27.3	15.31	15.31	12.31	1.24
4	Water-Cooled Screw Chiller > 300 ton	A- Commercial Cooling	657	$27.2	$3.0	$13.6	$40.7	$27.2	17.80	17.80	11.89	1.50
5	Chiller Tune Up	A- Commercial Cooling	223	$2.8	$4.0	$1.4	$4.2	$2.8	60.13	60.13	44.35	1.36
6	High Efficiency Pumps	A- Commercial Cooling	46	$96.8	$5.0	$48.4	$145.2	$96.8	3.01	3.01	3.48	0.87
7	Efficient Chilled Water Pump	A- Commercial Cooling	8	$198.0	$6.0	$99.0	$297.0	$198.0	51.29	51.29	34.63	1.48
8	Chilled Hot Water Reset	A- Commercial Cooling	1,296	$5.3	$7.0	$2.6	$7.9	$5.3	19.70	19.70	30.35	0.65
9	VAV System Conversion	A- Commercial Cooling	2	$2,000.0	$8.0	$1,000.0	$3,000.0	$2,000.0	5.10	5.10	7.60	0.67
10	Motor Belt Replacement	A- Commercial Cooling	128	$21.0	$9.0	$10.5	$31.5	$21.0	5.59	5.59	6.10	0.92
11	Water-Side Economizer	A- Commercial Cooling	58	$50.0	$10.0	$25.0	$75.0	$50.0	18.27	18.27	25.93	0.70
12	Improved Duct Sealing - Cooling Chiller	C- Commercial Electric Heating and Cooling	0	$108.0	$11.0	$54.0	$162.0	$108.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
13	Integrated Building Design	C- Commercial Electric Heating and Cooling	17	$74,099.0	$12.0	$37,049.5	$111,148.5	$74,099.0	4.84	4.84	4.87	0.99
14	Energy Efficient Windows	C- Commercial Electric Heating and Cooling	171	$75.0	$13.0	$37.5	$112.5	$75.0	58.23	58.23	70.90	0.82
15	Cool Roof	C- Commercial Electric Heating and Cooling	0	$664.9	$14.0	$332.4	$997.3	$664.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
16	Ceiling Insulation	C- Commercial Electric Heating and Cooling	0	$47.2	$15.0	$23.6	$70.7	$47.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
17	Wall Insulation	C- Commercial Electric Heating and Cooling	70	$100.0	$16.0	$50.0	$150.0	$100.0	29.18	29.18	24.99	1.17
18	Roof Insulation	C- Commercial Electric Heating and Cooling	154	$111.1	$17.0	$55.6	$166.7	$111.1	2.59	2.59	2.29	1.13
19	Window Improvements	C- Commercial Electric Heating and Cooling	7	$388.9	$18.0	$194.5	$583.4	$388.9	1.37	1.37	1.96	0.70
20	EMS install	C- Commercial Electric Heating and Cooling	698	$3.5	$19.0	$1.8	$5.3	$3.5	250.01	250.01	336.10	0.74
21	EMS Optimization	C- Commercial Electric Heating and Cooling	22	$50.0	$20.0	$25.0	$75.0	$50.0	33.20	33.20	39.31	0.84
22	HVAC Occupancy Sensors	C- Commercial Electric Heating and Cooling	0	$250.0	$21.0	$125.0	$375.0	$250.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
23	Setback with Electric Heat	C- Commercial Electric Heating and Cooling	24	$50.0	$22.0	$25.0	$75.0	$50.0	136.20	136.20	203.40	0.67
24	EMS Pump Scheduling Controls	C- Commercial Electric Heating and Cooling	15	$507.0	$23.0	$253.5	$760.5	$507.0	3.18	3.18	4.58	0.69
25	Web enabled EMS	C- Commercial Electric Heating and Cooling	269	$50.0	$24.0	$25.0	$75.0	$50.0	27.49	27.49	60.04	0.46
26	Zoning	C- Commercial Electric Heating and Cooling	0	$500.0	$25.0	$250.0	$750.0	$500.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Retrocommissioning	C- Commercial Electric Heating and Cooling	0	$0.3	$26.0	$0.2	$0.5	$0.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	Air Cooled Recip Chiller-ER	A- Commercial Cooling	1,143	$260.4	$27.0	$130.2	$390.6	$260.4	2.32	2.32	2.24	1.03
29	Air Cooled Screw Chiller-ER	A- Commercial Cooling	948	$263.3	$28.0	$131.7	$395.0	$263.3	2.67	2.67	2.63	1.02
30	Water Cooled Centrifugal Chiller >300 ton-ER	A- Commercial Cooling	315	$208.1	$29.0	$104.1	$312.2	$208.1	1.77	1.77	2.18	0.81
31	Water Cooled Screw Chiller >300 ton-ER	A- Commercial Cooling	521	$96.7	$30.0	$48.4	$145.1	$96.7	3.72	3.72	2.40	1.55
32	High Efficiency Pumps-ER	A- Commercial Cooling	54	$164.0	$31.0	$82.0	$246.0	$164.0	1.78	1.78	2.46	0.72
33	Energy Efficient Windows-ER	C- Commercial Electric Heating and Cooling	94	$182.9	$32.0	$91.5	$274.4	$182.9	23.88	23.88	29.66	0.81
34	Cool Roof-ER	C- Commercial Electric Heating and Cooling	0	$2,643.0	$33.0	$1,321.5	$3,964.5	$2,643.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
35	*Add New Measure*				$34.0	$0.0	$0.0					
	Program Totals:	n/a	n/a	n/a				n/a	3.68	3.68	5.75	0.88

#2 Space Cooling - Unitary and Split AC Ratio: TRC 79,039

	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost				Per Unit Rebate - Incentive	Measure Level Ratios TRC	Direct Utility	Participant	RIM
1	AC 240k - 760k	A- Commercial Cooling	12,077	$115.1	$0.0	$57.6	$172.7	$115.1	2.19	2.19	1.93	1.14
2	Air Source Heat Pump - Cooling	A- Commercial Cooling	0	$52.5	$0.0	$26.3	$78.8	$52.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
3	Ductless (mini split) - Cooling	A- Commercial Cooling	0	$801.9	$0.0	$400.9	$1,202.8	$801.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	Water Loop Heat Pump (WLHP) - Cooling	A- Commercial Cooling	4,279	$25.1	$0.0	$12.6	$37.7	$25.1	3.73	3.73	4.13	0.90
5	Ground Source Heat Pump - Cooling	A- Commercial Cooling	40,780	$180.0	$0.0	$90.0	$270.0	$180.0	1.69	1.69	1.36	1.24
6	DX Condenser Coil Cleaning	A- Commercial Cooling	4,832	$6.4	$0.0	$3.2	$9.6	$6.4	10.87	10.87	5.87	1.85
7	Room A/C	A- Commercial Cooling	3,081	$74.8	$0.0	$37.4	$112.1	$74.8	7.89	7.89	3.51	2.25
8	Improved Duct Sealing - Cooling AC	C- Commercial Electric Heating and Cooling	0	$108.0	$0.0	$54.0	$162.0	$108.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	Integrated Building Design	C- Commercial Electric Heating and Cooling	173	$74,099.0	$0.0	$37,049.5	$111,148.5	$74,099.0	4.84	4.84	4.87	0.99
10	Energy Efficient Windows	C- Commercial Electric Heating and Cooling	1,618	$75.0	$0.0	$37.5	$112.5	$75.0	58.23	58.23	70.90	0.82
11	Cool Roof	C- Commercial Electric Heating and Cooling	0	$664.9	$0.0	$332.4	$997.3	$664.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	Ceiling Insulation	C- Commercial Electric Heating and Cooling	0	$47.2	$0.0	$23.6	$70.7	$47.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
13	Wall Insulation	C- Commercial Electric Heating and Cooling	666	$100.0	$0.0	$50.0	$150.0	$100.0	29.18	29.18	24.99	1.17
14	Roof Insulation	C- Commercial Electric Heating and Cooling	1,624	$111.1	$0.0	$55.6	$166.7	$111.1	2.59	2.59	2.29	1.13
15	Window Improvements	C- Commercial Electric Heating and Cooling	110	$388.9	$0.0	$194.5	$583.4	$388.9	1.37	1.37	1.96	0.70
16	Programmable Thermostats	C- Commercial Electric Heating and Cooling	0	$59.0	$0.0	$29.5	$88.5	$59.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
17	EMS install	C- Commercial Electric Heating and Cooling	6,595	$3.5	$0.0	$1.8	$5.3	$3.5	250.01	250.01	336.10	0.74
18	EMS Optimization	C- Commercial Electric Heating and Cooling	212	$50.0	$0.0	$25.0	$75.0	$50.0	33.20	33.20	39.31	0.84
19	HVAC Occupancy Sensors	C- Commercial Electric Heating and Cooling	0	$250.0	$0.0	$125.0	$375.0	$250.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
20	Setback with Electric Heat	C- Commercial Electric Heating and Cooling	227	$50.0	$0.0	$25.0	$75.0	$50.0	136.20	136.20	203.40	0.67
21	EMS Pump Scheduling Controls	C- Commercial Electric Heating and Cooling	225	$507.0	$0.0	$253.5	$760.5	$507.0	3.18	3.18	4.58	0.69
22	Web enabled EMS	C- Commercial Electric Heating and Cooling	2,542	$50.0	$0.0	$25.0	$75.0	$50.0	27.49	27.49	60.04	0.46
23	Zoning	C- Commercial Electric Heating and Cooling	0	$500.0	$0.0	$250.0	$750.0	$500.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
24	Retrocommissioning	C- Commercial Electric Heating and Cooling	0	$0.3	$0.0	$0.2	$0.5	$0.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	AC 240k - 760k-ER	A- Commercial Cooling	0	$271.7	$0.0	$135.9	$407.6	$271.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	Air Source Heat Pump-Cooling-ER	A- Commercial Cooling	0	$374.8	$0.0	$187.4	$562.2	$374.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Ductless Mini Split-Cooling -ER	A- Commercial Cooling	0	$907.4	$0.0	$453.7	$1,361.1	$907.4	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	Water Loop Heat Pump(WLHP) Cooling-ER	A- Commercial Cooling	0	$816.0	$0.0	$408.0	$1,224.0	$816.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
29	Ground Source Heat Pump-Cooling-ER	A- Commercial Cooling	0	$273.7	$0.0	$136.8	$410.5	$273.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
30	Room A/C-ER	A- Commercial Cooling	3,883	$112.4	$0.0	$56.2	$168.7	$112.4	5.25	5.25	2.67	1.96
31	Energy Efficient Windows-ER	C- Commercial Electric Heating and Cooling	1,213	$182.9	$0.0	$91.5	$274.4	$182.9	23.88	23.88	29.66	0.81
32	Cool Roof-ER	C- Commercial Electric Heating and Cooling	0	$2,643.0	$0.0	$1,321.5	$3,964.5	$2,643.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
33	*Add New Measure*											
	Program Totals:	n/a	n/a	n/a				n/a	3.12	3.12	4.89	0.87

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

INDUSTRIAL - ENERGY EFFICIENCY - PMAP (Incremental/Utility Admin./Incentive/Cost Effectiveness)

#3	Space Heating	Ratio: TRC										
			119,073						Measure Level Ratios			
	Measure Name	Measure Type	Total Units	Per Unit Total or Incremental Cost				Per Unit Rebate - Incentive	TRC	Direct Utility	Participant	RIM
1	Air Source Heat Pump - Heating	B- Commercial Electric Heating	0	$210.0	$0.0	$105.0	$315.0	$210.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2	Ground Source Heat Pump - Heating	B- Commercial Electric Heating	7,269	$180.0	$0.0	$90.0	$270.0	$180.0	2.70	2.70	2.80	0.96
3	Ductless (mini split) - Heating	B- Commercial Electric Heating	0	$641.5	$0.0	$320.7	$962.2	$641.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
4	VFD Pumps	B- Commercial Electric Heating	16	$4,535.0	$0.0	$2,267.5	$6,802.5	$4,535.0	5.56	5.56	6.83	0.81
5	ECM motors on furnaces	B- Commercial Electric Heating	0	$1,250.0	$0.0	$625.0	$1,875.0	$1,250.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	Water Loop Heat Pump (WLHP) - Heating	B- Commercial Electric Heating	2,180	$20.1	$0.0	$10.0	$30.1	$20.1	1.17	1.17	2.66	0.44
7	Improved Duct Sealing - Heating	C- Commercial Electric Heating and Cooling	0	$108.0	$0.0	$54.0	$162.0	$108.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8	Integrated Building Design	C- Commercial Electric Heating and Cooling	40	$74,099.0	$0.0	$37,049.5	$111,148.5	$74,099.0	4.84	4.84	4.87	0.99
9	Energy Efficient Windows	C- Commercial Electric Heating and Cooling	381	$75.0	$0.0	$37.5	$112.5	$75.0	58.23	58.23	70.90	0.82
10	Cool Roof	C- Commercial Electric Heating and Cooling	0	$664.9	$0.0	$332.4	$997.3	$664.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
11	Ceiling Insulation	C- Commercial Electric Heating and Cooling	0	$47.2	$0.0	$23.6	$70.7	$47.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	Wall Insulation	C- Commercial Electric Heating and Cooling	157	$100.0	$0.0	$50.0	$150.0	$100.0	29.18	29.18	24.99	1.17
13	Roof Insulation	C- Commercial Electric Heating and Cooling	382	$111.1	$0.0	$55.6	$166.7	$111.1	2.59	2.59	2.29	1.13
14	Window Improvements	C- Commercial Electric Heating and Cooling	19	$388.9	$0.0	$194.5	$583.4	$388.9	1.37	1.37	1.96	0.70
15	Programmable Thermostats	C- Commercial Electric Heating and Cooling	0	$59.0	$0.0	$29.5	$88.5	$59.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
16	EMS install	C- Commercial Electric Heating and Cooling	1,552	$3.5	$0.0	$1.8	$5.3	$3.5	250.01	250.01	336.10	0.74
17	EMS Optimization	C- Commercial Electric Heating and Cooling	50	$50.0	$0.0	$25.0	$75.0	$50.0	33.20	33.20	39.31	0.84
18	HVAC Occupancy Sensors	C- Commercial Electric Heating and Cooling	0	$250.0	$0.0	$125.0	$375.0	$250.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	Setback with Electric Heat	C- Commercial Electric Heating and Cooling	53	$50.0	$0.0	$25.0	$75.0	$50.0	136.20	136.20	203.40	0.67
20	EMS Pump Scheduling Controls	C- Commercial Electric Heating and Cooling	53	$507.0	$0.0	$253.5	$760.5	$507.0	3.18	3.18	4.58	0.69
21	Web enabled EMS	C- Commercial Electric Heating and Cooling	598	$50.0	$0.0	$25.0	$75.0	$50.0	27.49	27.49	60.04	0.46
22	Destratification Fan (HVLS)	C- Commercial Electric Heating and Cooling	106,324	$12.8	$0.0	$6.4	$19.1	$12.8	2.37	2.37	2.55	0.93
23	Retrocommissioning	C- Commercial Electric Heating and Cooling	0	$0.3	$0.0	$0.2	$0.5	$0.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
24	Air Source Heat Pump-Heating-ER	B- Commercial Electric Heating	0	$512.9	$0.0	$256.5	$769.4	$512.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	Ground Source Heat Pump-Heating-ER	B- Commercial Electric Heating	5,626	$273.7	$0.0	$136.8	$410.5	$273.7	1.34	1.34	1.57	0.86
26	Ductless Mini Split-Heating -ER	B- Commercial Electric Heating	0	$907.4	$0.0	$453.7	$1,361.1	$907.4	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Water Loop Heat Pump(WLHP) Heating-ER	B- Commercial Electric Heating	0	$115.9	$0.0	$57.9	$173.8	$115.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	Energy Efficient Windows-ER	C- Commercial Electric Heating and Cooling	244	$182.9	$0.0	$91.5	$274.4	$182.9	23.88	23.88	29.66	0.81
29	Cool Roof-ER	C- Commercial Electric Heating and Cooling	0	$2,643.0	$0.0	$1,321.5	$3,964.5	$2,643.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
30	*Add New Measure*											
	Program Totals:	n/a	n/a	n/a				n/a	2.64	2.64	4.39	0.81

4 CSR 240-22.050(3)(G)5A through 5F; 4 CSR 240-22.050(3)(H)

Compliance References

4 CSR 240-22.050(3)(G)1 ……1-39
4 CSR 240-22.050(3)(G)3 ……1-39
4 CSR 240-22.050(3)(G)4 ……1-39
4 CSR 240-22.050(3)(H) ……1-39

4 CSR 240-22.050(3)(G)5A ……40-51
4 CSR 240-22.050(3)(G)5B ……40-51
4 CSR 240-22.050(3)(G)5C ……40-51
4 CSR 240-22.050(3)(G)5D ……40-51
4 CSR 240-22.050(3)(G)5E ……40-51
4 CSR 240-22.050(3)(G)5F ……40-51
4 CSR 240-22.050(3)(H) ……40-51