

Chapter 8 - Appendix E

RESIDENTIAL - DEMAND RESPONSE - PRAP

(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

		= User Input																					
PROJECT NAME:		Residential D.C. Cost-Of-AC																					
DEMAND RESPONSE PROGRAM NAME:		Residential D.C. Cost-Of-AC																					
Firm Load Reduction? (Select from drop-down menu)		YES																					
New Program? (Select from drop-down menu)		NO																					
Load Shifting Program? (Select from drop-down menu)		NO																					
Number of Control Units Per Participant		1																					
If Existing Program - Total Number of Participants		1																					
Age of Existing Program - Years		2018																					
		Year End																					
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Eligible Customers (From the Eligible Customer Tab)	Customer Count	957,479	939,072	887,944	834,319	791,946	758,148	724,123	690,019	651,815	621,572	622,276	622,980	623,684	624,387	625,092	625,795	626,499	627,203	627,907	628,611	629,315	630,019
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.62																					
Coincident Peak Load Efficiency Gain (Year 20)		0%	0.48%	1.30%	2.44%	3.55%	4.66%	5.77%	6.70%	7.67%	8.63%	9.58%	10.49%	11.37%	12.22%	13.05%	13.87%	14.62%	15.36%	16.08%			
Participant Incentive (\$/Participant-Yr.)		\$27																					
Program Participation Rate (From Market Adoption Curve Tab)	Participation Rate	1.4%	6.0%	14.0%	18.6%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
Annual Number of Control Hours		80																					
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																						
Program Savings Factor (Percent of CP Load)																							
Per Participant CP Reduction (kW)		1.06																					
LOAD REDUCTION																							
Number of Program Participants		13,405	56,344	124,312	155,183	158,389	151,630	144,825	138,004	111,167	124,314	124,455	124,596	124,737	124,877	125,018	125,159	125,300	125,441	125,582	125,723	125,864	
Base Sector CP Demand (kW)		1,437,876	2,342,265	3,122,339	3,903,388	2,734,214	2,579,192	2,427,455	2,276,615	2,283,958	2,027,734	2,090,707	2,092,232	1,979,262	1,958,600	2,043,239	2,027,655	1,912,212	1,896,961				
Base Participant CP Demand (kW)		48,130	205,542	437,550	540,030	544,831	515,838	487,491	459,723	432,302	405,547	401,941	388,444	395,050	391,720	388,504	385,531	382,444	379,792				
Coincident Peak Demand Reduction (kW)		14,237	58,863	126,429	158,509	159,548	155,408	149,088	144,937	116,911	119,036	117,977	116,911	115,955	114,977	114,001	113,025	112,049	111,073				
Coincident Peak Demand Reduction % Gain (kW)		14,984	62,444	136,721	168,126	169,620	165,584	151,769	141,214	114,621	116,257	115,135	114,046	112,990	111,933	110,877	109,821	108,765	107,709				
TOTAL UTILITY AVOIDED COSTS (DOLLARS)		\$278,094,838	\$1,826,969	\$6,122,087	\$23,474,646	\$29,627,918	\$36,527,818	\$29,437,015	\$28,433,705	\$21,361,302	\$26,257,544	\$25,236,082	\$25,509,418	\$25,745,145	\$26,050,486	\$26,305,469	\$26,596,510	\$27,144,508	\$27,508,166	\$27,868,988			
COSTS																							
Newly Installed Units (Includes replacement of units at end of useful life)	NPV	13405	42940	67968	30871	3206	0	0	0	0	0	13546	43080	68108	31012	3347	141	141	141				
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																							
Utility/PA Per Unit Equipment Cost		\$30	\$71	\$71	\$74	\$76	\$77	\$79	\$80	\$82	\$84	\$85	\$87	\$89	\$91	\$92	\$94	\$96	\$98				
Utility/PA Per Unit Labor Cost		\$200	\$204	\$206	\$212	\$216	\$221	\$225	\$230	\$234	\$238	\$244	\$249	\$254	\$259	\$264	\$269	\$275	\$280				
Total Utility/PA Installed Equipment Cost Per Unit		\$270	\$275	\$281	\$287	\$292	\$298	\$304	\$310	\$316	\$322	\$329	\$334	\$342	\$349	\$356	\$363	\$371	\$378				
Variable Utility/PA Installed Equipment Cost		\$68,051,133	\$1,632,270	\$11,822,577	\$10,022,887	\$8,849,431	\$9,981,811	\$0	\$0	\$0	\$0	\$0	\$8,408,234	\$14,462,257	\$13,322,070	\$10,811,672	\$1,102,261	\$5,119	\$12,182	\$13,839			
American Utility/PA Installed Equipment Cost		\$71,998,077	\$487,084	\$2,078,421	\$4,496,183	\$5,818,631	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720	\$5,964,720
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																							
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Total Non-Equipment Program Incentive Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Non-Equipment Participant Incentive (\$/Participant Yr.)		\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27				
Total Non-Equipment Program Incentive Costs		\$37,575,648	\$366,350,56	\$1,539,895,93	\$3,397,456,77	\$4,241,143,03	\$4,328,774,25	\$4,144,035,75	\$3,958,018,66	\$3,771,644,56	\$3,584,794,05	\$3,397,511,03	\$3,461,362,64	\$3,405,208,81	\$3,409,054,04	\$3,412,899,21	\$3,416,795,85	\$3,420,597,02	\$3,424,441,18	\$3,428,289,35			
Program Development																							
Consulting		\$80,000																					
Marketing		\$64,763	\$66,058	\$67,379	\$68,727	\$70,102	\$71,504	\$72,934	\$74,392	\$75,880	\$77,398	\$78,946	\$80,525	\$82,135	\$83,776	\$85,449	\$87,154	\$88,891	\$90,660				
Evaluation		\$570,235	\$2,188,922	\$1,935,685	\$1,038,048	\$1,717,497	\$0	\$0	\$0	\$0	\$0	\$0	\$6,300	\$8,749	\$8,822	\$8,100	\$9,288	\$10,476	\$11,664	\$12,852			
Phase Program Costs		\$0,075,992	\$894,938	\$3,306,980	\$1,635,084	\$1,719,830	\$297,720	\$128,708	\$129,242	\$133,627	\$138,463	\$137,152	\$148,485	\$151,442	\$154,409	\$157,376	\$160,343	\$163,310	\$166,277	\$169,244			
Central Controller Software Costs		\$5,000	\$5,100	\$5,202	\$5,306	\$5,412	\$5,520	\$5,631	\$5,743	\$5,858	\$5,975	\$6,095	\$6,217	\$6,341	\$6,468	\$6,597	\$6,729	\$6,864	\$7,001				
Central Controller Hardware Cost		\$25,000																					
Central Controller Costs		\$106,370	\$130,000	\$5,100	\$5,202	\$5,306	\$5,412	\$5,520	\$5,631	\$5,743	\$5,858	\$5,975	\$6,095	\$6,217	\$6,341	\$6,468	\$6,597	\$6,729	\$6,864				
TOTAL UTILITY COSTS (No Amortization)		\$116,869,123	\$4,888,619	\$15,877,548	\$26,156,434	\$14,891,730	\$5,568,787	\$4,276,264	\$4,092,931	\$3,909,214	\$3,725,115	\$3,540,839	\$8,039,197	\$18,021,425	\$16,891,394	\$14,408,597	\$4,776,334	\$3,662,392	\$1,600,874	\$3,659,846			
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$18,765,987	\$1,748,443	\$5,390,592	\$11,795,290	\$11,844,911	\$12,396,438	\$10,206,984	\$10,007,051	\$9,871,814	\$9,849,836	\$9,866,359	\$9,891,396	\$9,916,396	\$9,941,396	\$9,966,396	\$9,991,396	\$10,016,396	\$10,041,396	\$10,066,396			
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$77,233,479	\$4,534,248	\$14,137,457	\$32,762,984	\$10,610,567	\$1,240,013	\$132,228	\$136,873	\$137,370	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321	\$140,321
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)		\$81,180,439	\$1,383,092	\$4,390,261	\$8,368,460	\$7,693,768	\$6,287,852	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248	\$6,096,248
UTILITY COST TEST																							
Total Benefits		\$273,205,413																					
Total Costs		\$114,893,123																					
TRC Benefit Cost Ratio		2.38																					
TOTAL RESOURCE COST TEST																							
Total Benefits		\$273,205,413																					
Total Costs		\$77,233,479																					
TRC Benefit Cost Ratio		3.54																					

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

RESIDENTIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customer Tab)	504,130	484,837	432,921	378,578	335,506	301,103	266,557	231,934	197,230	162,448	128,631	102,815	81,000	63,183	51,367	41,551	33,735	27,919	
Coincident Peak (CP) Load Per Eligible Customer (kW)	3.61																		
Coincident Peak Load Efficiency Gain (Year 20)	0%	0.48%	1.30%	2.44%	3.55%	4.66%	5.77%	6.70%	7.67%	8.63%	9.68%	10.49%	11.37%	12.22%	13.05%	13.87%	14.62%	15.36%	
Participant Incentive (\$/Participant-Yr.)	\$8																		
Program Participation Rate (From Market Adoption Curve Tab)	1.0%	6.9%	16.1%	21.4%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	
Annual Number of Control Hours	80																		
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																		
Program Savings Factor (Percent of CP Load)																			
Per Participant CP Reduction (kW)	0.40																		
LOAD REDUCTION																			
Number of Program Participants	8,116	33,454	69,700	80,978	77,566	69,254	61,308	53,345	46,363	37,363	37,405	37,447	37,490	37,532	37,574	37,617	37,659	37,701	
Base Sector CP Demand (kW)	1,031,154	1,172,643	1,232,782	1,217,439	1,234,080	1,234,941	1,072,353	712,226	602,188	528,948	512,231	520,655	518,222	511,874	507,674	503,792	500,019	496,251	
Base Participant CP Demand (kW)	25,143	119,069	245,329	281,799	265,438	235,598	206,368	177,704	148,539	121,888	120,804	119,753	118,713	117,732	116,765	115,872	115,004	114,147	
Coincident Peak Demand Reduction (kW)	3,247	13,362	27,880	32,391	30,867	27,701	24,233	21,238	18,145	14,945	14,962	14,979	14,992	15,013	15,030	15,047	15,064	15,081	
Coincident Peak Demand Reduction @ Gain (kW)	3,444	14,293	29,572	34,356	32,739	29,382	26,011	22,613	19,246	15,852	15,870	15,888	15,906	15,924	15,942	15,960	15,978	15,995	
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$43,346,292	\$296,977	\$2,051,175	\$4,496,713	\$5,923,298	\$5,755,632	\$5,266,575	\$4,753,387	\$4,222,241	\$3,682,283	\$3,076,753	\$3,341,836	\$3,298,292	\$3,276,166	\$3,345,451	\$3,416,209	\$3,488,463	\$3,562,227	\$3,637,547
COSTS																			
Newly Installed Units (Includes replacement of units at end of useful life)	8116	25317	36246	11278	0	0	0	0	0	0	8159	25380	33289	11120	42	42	42	42	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$30	\$71	\$71	\$74	\$76	\$77	\$79	\$80	\$82	\$84	\$85	\$87	\$89	\$91	\$92	\$94	\$96	\$98	
Utility/PA Per Unit Labor Cost	\$200	\$204	\$208	\$212	\$216	\$221	\$225	\$230	\$234	\$239	\$244	\$249	\$254	\$259	\$264	\$269	\$275	\$280	
Total Utility/PA Installed Equipment Cost Per Unit	\$270	\$275	\$281	\$287	\$292	\$298	\$304	\$310	\$316	\$323	\$330	\$336	\$342	\$349	\$356	\$363	\$371	\$378	
Variable Utility/PA Installed Equipment Cost	\$134,364,766	\$2,193,452	\$6,177,880	\$11,181,920	\$13,211,351	\$0	\$0	\$0	\$0	\$0	\$2,685,271	\$8,323,389	\$12,428,240	\$10,913,788	\$13,048	\$15,493	\$15,666	\$15,759	
Amortized Utility/PA Installed Equipment Cost	\$16,992,720	\$296,931	\$1,234,042	\$2,406,361	\$3,000,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247	\$3,039,247
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Non-Equipment Participant Incentive (\$/Participant Yr.)	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$8	
Total Non-Equipment Program Incentive Costs	\$4,453,809	\$64,931.92	\$267,636.25	\$557,602.06	\$647,823.12	\$637,336.17	\$554,026.11	\$490,465.67	\$426,758.46	\$362,903.18	\$298,903.80	\$299,243.72	\$299,179.64	\$299,919.09	\$300,256.68	\$300,594.36	\$301,272.28	\$301,630.20	
Implementation	\$80,000																		
Admin	\$64,763	\$66,058	\$67,379	\$68,727	\$70,102	\$71,504	\$72,934	\$74,392	\$75,880	\$77,398	\$78,946	\$80,525	\$82,135	\$83,776	\$85,448	\$87,152	\$88,888	\$90,656	
Marketing	\$400,825	\$1,392,262	\$1,805,542	\$1,998,308	\$0	\$0	\$0	\$0	\$0	\$0	\$2,175	\$2,245	\$2,691	\$2,739	\$2,787	\$2,835	\$2,883	\$2,931	
Evaluation	\$5,000	\$11,000	\$12,000	\$13,000	\$14,000	\$15,000	\$16,000	\$17,000	\$18,000	\$19,000	\$20,000	\$21,000	\$22,000	\$23,000	\$24,000	\$25,000	\$26,000	\$27,000	
Fixed Program Costs	\$5,446,435	\$608,588	\$1,409,260	\$2,004,941	\$2,701,186	\$3,224,223	\$3,670,708	\$4,042,427	\$4,346,463	\$4,593,152	\$4,792,470	\$4,943,389	\$5,054,218	\$5,124,218	\$5,163,218	\$5,191,218	\$5,218,218	\$5,245,218	
Central Controller Software Costs	\$5,000	\$5,100	\$5,202	\$5,306	\$5,412	\$5,520	\$5,631	\$5,743	\$5,858	\$5,975	\$6,095	\$6,217	\$6,341	\$6,468	\$6,597	\$6,729	\$6,864	\$7,001	
Central Controller Hardware Cost	\$25,000																		
Central Controller Costs	\$106,370	\$3,000	\$5,100	\$5,202	\$5,306	\$5,412	\$5,520	\$5,631	\$5,743	\$5,858	\$5,975	\$6,095	\$6,217	\$6,341	\$6,468	\$6,597	\$6,729	\$6,864	
TOTAL UTILITY COSTS (No Amortization)	\$44,973,377	\$2,888,972	\$8,659,880	\$12,749,670	\$14,604,666	\$14,965,965	\$14,626,257	\$14,282,338	\$13,937,338	\$13,592,338	\$13,247,338	\$12,902,338	\$12,557,338	\$12,212,338	\$11,867,338	\$11,522,338	\$11,177,338	\$10,832,338	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$47,765,384	\$3,096,463	\$9,194,612	\$13,284,296	\$15,139,292	\$15,499,792	\$15,154,792	\$14,809,792	\$14,464,792	\$14,119,792	\$13,774,792	\$13,429,792	\$13,084,792	\$12,739,792	\$12,394,792	\$12,049,792	\$11,704,792	\$11,359,792	
TOTAL PROGRAM COSTS - THE (No Amortization)	\$49,519,569	\$2,822,249	\$8,392,230	\$12,292,068	\$14,959,843	\$15,228,228	\$14,873,873	\$14,519,418	\$14,164,963	\$13,810,508	\$13,456,053	\$13,101,600	\$12,747,145	\$12,392,690	\$12,038,235	\$11,683,780	\$11,329,325	\$10,974,870	
TOTAL PROGRAM COSTS - THE (Amortized Installed Equipment Cost)	\$49,549,230	\$2,852,321	\$8,422,302	\$12,322,130	\$15,000,000	\$15,268,385	\$14,913,930	\$14,559,475	\$14,205,020	\$13,850,565	\$13,496,110	\$13,141,655	\$12,787,200	\$12,432,745	\$12,078,290	\$11,723,835	\$11,369,380	\$11,014,925	
UTILITY COST TEST																			
Total Benefits	\$43,346,292																		
Total Costs	\$44,973,377																		
NET Benefit Cost Ratio	0.96																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$43,346,292																		
Total Costs	\$40,519,569																		
NET Benefit Cost Ratio	1.07																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

RESIDENTIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

- User Input		Amgen Oil Production																		
DEMAND RESPONSE PROGRAM NAME:		TOU - Plug In Electric Vehicle																		
Firm Load Reduction? (Select from drop-down menu)	NO																			
New Program? (Select from drop-down menu)	YES																			
Load (kW) Program? (Select from drop-down menu)	1																			
Number of Control Units Per Participant	1																			
# of Existing Program - Year	2018																			
Item	Year End	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers List)	Calculated by the	3,024	3,630	4,137	5,562	7,303	9,283	11,502	13,961	16,300	19,613	21,315	27,065	30,098	31,994	33,889	35,794	37,680	39,575	
Coincident Peak (CP) Load Per Eligible Customer (kW)	3.65																			
Coincident Peak Load Efficiency Gain (Near 20)	4%																			
Participant Incentive (\$/kW-Yr.)	\$0																			
Program Participation Rate (From Market Adoption Curve Tab)	Calculated by the	25.0%	28.0%	30.0%	32.0%	34.0%	36.0%	38.0%	40.0%	42.0%	44.0%	46.0%	48.0%	50.0%	52.0%	54.0%	56.0%	58.0%	60.0%	
Annual Number of Control Hours	1407																			
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																			
Program Savings Factor (Percent of CP Load)																				
Per Participant CP Reduction (kW)	0.47																			
LOAD REDUCTION																				
Number of Program Participants	784	1,016	1,301	1,780	2,483	3,342	4,371	5,584	6,846	8,630	10,734	12,991	15,609	16,817	18,300	20,039	21,854	23,745	25,720	
Base Section CP Demand (kW)	10,882	13,049	15,511	19,982	27,078	35,880	45,802	58,242	72,722	91,208	113,208	139,208	170,208	182,211	197,208	214,211	232,211	250,211	269,211	
Base Participant CP Demand (kW)	2,822	3,652	4,665	6,309	8,667	11,809	15,543	19,817	24,243	30,496	37,852	45,715	52,485	56,280	60,900	66,420	71,940	77,460	82,980	
Coincident Peak Demand Reduction (kW)	368	478	612	837	1,167	1,573	2,054	2,625	3,218	4,056	5,045	6,106	7,093	7,819	8,501	9,218	9,969	10,752	11,567	
Coincident Peak Demand Reduction@ Gen (kW)	391	507	649	887	1,238	1,666	2,179	2,784	3,413	4,302	5,351	6,476	7,502	8,204	8,923	9,600	10,295	11,017	11,767	
Annual Avoided Generation Capacity Benefits	\$6,564,200	\$8,456,160	\$10,824,000	\$14,520,000	\$19,656,000	\$26,448,000	\$34,368,000	\$43,808,000	\$54,976,000	\$69,168,000	\$86,672,000	\$106,800,000	\$130,720,000	\$148,800,000	\$161,280,000	\$173,760,000	\$186,240,000	\$198,720,000	\$211,200,000	
Generation Energy Costs																				
Coincident Peak Demand Reduction@ Gen (kW)	391	507	649	887	1,238	1,666	2,179	2,784	3,413	4,302	5,351	6,476	7,502	8,204	8,923	9,600	10,295	11,017	11,767	
Hours of Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Annual Energy Saved (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cost to Save Energy During Control (\$/MWh) (Nominal \$)	\$35.46	\$37.51	\$41.97	\$48.44	\$52.26	\$59.85	\$55.46	\$57.60	\$59.62	\$70.33	\$73.50	\$70.12	\$72.96	\$75.65	\$80.00	\$84.48	\$89.00	\$93.52	\$98.00	
Annual Avoided Energy Benefits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Generation Energy Costs																				
Coincident Peak Demand Reduction@ Gen (kW)	391	507	649	887	1,238	1,666	2,179	2,784	3,413	4,302	5,351	6,476	7,502	8,204	8,923	9,600	10,295	11,017	11,767	
Hours of Control	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	
Annual Energy Saved @ Gen	\$84,617	\$78,263	\$70,657	\$1,377,810	\$1,824,402	\$2,493,135	\$3,202,918	\$4,166,118	\$5,307,395	\$6,438,611	\$8,007,817	\$9,659,795	\$11,292,972	\$12,415,125	\$13,653,353	\$14,999,681	\$16,350,009	\$17,714,330	\$19,092,651	
Cost to Save Energy During Control (\$/MWh) (Nominal \$)	\$35.46	\$37.51	\$41.97	\$48.44	\$52.26	\$59.85	\$55.46	\$57.60	\$59.62	\$70.33	\$73.50	\$70.12	\$72.96	\$75.65	\$80.00	\$84.48	\$89.00	\$93.52	\$98.00	
Cost to Save Energy During Recovery (\$/MWh) (Nominal \$)	\$32.48	\$33.90	\$36.88	\$36.43	\$39.11	\$45.48	\$51.23	\$53.02	\$56.63	\$54.93	\$64.00	\$67.11	\$71.79	\$66.36	\$70.76	\$74.34	\$77.30	\$80.90	\$84.90	
Energy Cost Savings per kWh	\$1,708	\$1,462	\$1,096	\$1,322	\$1,315	\$1,437	\$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	
Annual Generation Energy \$/kW Benefit	\$957,897	\$1,146,462	\$1,596,462	\$2,106,462	\$2,806,462	\$3,706,462	\$4,806,462	\$6,106,462	\$7,606,462	\$9,406,462	\$11,606,462	\$14,206,462	\$17,206,462	\$20,606,462	\$24,406,462	\$28,606,462	\$33,206,462	\$38,206,462	\$43,606,462	
Participant Benefit per Customer (\$/kW-Yr.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total Participant Benefits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Avoided Transmission & Distribution Demand																				
Annual Avoidable kW Savings	391	507	649	887	1,238	1,666	2,179	2,784	3,413	4,302	5,351	6,476	7,502	8,204	8,923	9,600	10,295	11,017	11,767	
Avoided Transmission & Distribution (\$/kW-Yr.) (Nominal \$)	\$24.43	\$24.82	\$25.42	\$25.93	\$26.45	\$27.12	\$27.52	\$28.07	\$28.63	\$29.20	\$29.78	\$30.38	\$31.00	\$31.61	\$32.24	\$32.88	\$33.54	\$34.21	\$34.89	
Annual Avoided T&D Benefits	\$1,367,809	\$5,946,168	\$16,489,168	\$23,007,168	\$32,739,168	\$44,945,168	\$59,958,168	\$78,138,168	\$97,707,168	\$125,628,168	\$159,387,168	\$196,706,168	\$242,486,168	\$298,157,168	\$364,132,168	\$440,812,168	\$528,812,168	\$628,412,168	\$740,012,168	
Annual Utility Avoided Costs (Benefits)	\$7,939,716	\$10,768,168	\$14,079,168	\$19,064,168	\$26,465,168	\$35,653,168	\$47,076,168	\$60,926,168	\$77,683,168	\$99,896,168	\$128,208,168	\$163,408,168	\$206,808,168	\$259,412,168	\$321,412,168	\$393,412,168	\$476,412,168	\$570,412,168	\$684,412,168	
Costs																				
Equipment that will be installed and owned by utility OR PA	784	233	285	479	703	859	1029	1214	1262	1784	2104	2257	2058	1588	1663	1739	1815	1891	1967	
Utility/PA Per Unit Equipment Cost	\$252	\$257	\$262	\$267	\$273	\$278	\$284	\$289	\$295	\$301	\$307	\$313	\$320	\$326	\$333	\$339	\$346	\$353	\$360	
Utility/PA Per Unit Labor Cost	\$48	\$49	\$50	\$51	\$52	\$53	\$54	\$55	\$56	\$57	\$58	\$59	\$60	\$61	\$62	\$63	\$64	\$65	\$66	
Total Utility/PA Installed Equipment Cost Per Unit	\$300	\$306	\$312	\$318	\$325	\$331	\$338	\$345	\$351	\$358	\$365	\$372	\$380	\$387	\$394	\$401	\$408	\$415	\$422	
Variable Utility/PA Installed Equipment Cost	\$4,897,615	\$235,032	\$171,225	\$88,861	\$102,413	\$228,343	\$284,475	\$347,005	\$418,227	\$444,420	\$639,513	\$760,558	\$844,526	\$782,936	\$666,228	\$654,309	\$702,131	\$747,630	\$794,189	
Amortized Utility/PA Installed Equipment Cost	\$4,793,208	\$201,165	\$148,274	\$131,896	\$46,669	\$66,006	\$90,956	\$120,772	\$156,646	\$194,681	\$249,515	\$315,544	\$387,760	\$444,516	\$507,772	\$564,241	\$624,468	\$684,395	\$744,774	
Equipment that will be installed and owned by the PARTICIPANT																				
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-Yr.)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation Admin	\$204,170	\$74,159	\$82,424	\$94,368	\$108,412	\$118,165	\$131,121	\$144,355	\$150,052	\$184,252	\$207,441	\$221,125	\$232,910	\$186,774	\$195,477	\$204,487	\$213,820	\$223,364	\$233,164	
Marketing Evaluation	\$1,788,081	\$204,170	\$74,159	\$82,424	\$94,368	\$108,412	\$118,165	\$131,121	\$144,355	\$150,052	\$184,252	\$207,441	\$221,125	\$232,910	\$186,774	\$195,477	\$204,487	\$213,820	\$223,164	
Control of Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Control of Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (Net Amortization)	\$6,486,595	\$489,262	\$449,388	\$173,284	\$246,781	\$836,740	\$408,640	\$478,227	\$662,583	\$593,502	\$823,765	\$977,050	\$1,068,051	\$995,846	\$863,061	\$853,839	\$906,619	\$961,410	\$1,017,553	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$6,582,189	\$224,251	\$164,431	\$114,330	\$141,217	\$219,928	\$216,120	\$231,893	\$301,000	\$344,733	\$433,787	\$523,026	\$606,885	\$687,818	\$694,846	\$750,729	\$828,915	\$902,415	\$986,080	
TOTAL PROGRAM COSTS - TMC (Net Amortization)	\$6,486,595	\$489,262	\$449,388	\$173,284	\$246,781	\$836,740	\$408,640	\$478,227	\$662,583	\$593,502	\$823,765	\$977,050	\$1,068,051	\$995,846	\$863,061	\$853,839	\$906,619	\$961,410	\$1,017,553	
TOTAL PROGRAM COSTS - TMC (Amortized Installed Equipment Cost)	\$6,582,189	\$224,251	\$164,431	\$114,330	\$141,217	\$219,928	\$216,120	\$231,893	\$301,000	\$344,733	\$433,787	\$523,026	\$606,885	\$687,818	\$694,846	\$750,729	\$828,915	\$902,415	\$986,080	
UTILITY COST TEST																				
Total Benefits	\$7,939,716																			
Total Costs	\$6,088,559																			
UCT Benefit Cost Ratio	1.30																			
TOTAL RESOURCE COST TEST																				
Total Benefits	\$7,939,716																			
Total Costs	\$6,088,559																			
TMC Benefit Cost Ratio	1.30																			

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-

RESIDENTIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

		Year End																		
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
PROJCT NAME:		Residential Critical Peak Pricing with Enal																		
DEMAND RESPONSE PROGRAM NAME:		Residential Critical Peak Pricing with Enal																		
Firm Load Reduction? (Select from drop-down menu)		NO																		
New Program? (Select from drop-down menu)		YES																		
Load Shifting Program? (Select from drop-down menu)		NO																		
Number of Control Units Per Participant		1.00%																		
If Existing Program - Total Number of Participants		2018																		
Age of Existing Program - Years		1																		
Eligible Customers (From the Eligible Customer Tab)		91,144	182,644	274,442	366,501	458,828	551,124	643,943	736,771	829,608	922,055	1014,100	1106,145	1198,190	1290,235	1382,280	1474,325	1566,370	1658,415	1750,460
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.62																		
Coincident Peak Load Efficiency Gain (Year 20)		0%	0.52%	1.25%	1.99%	2.81%	3.60%	4.40%	5.14%	5.84%	6.52%	7.10%	7.63%	8.11%	8.55%	8.96%	9.39%	9.78%	10.14%	10.48%
Participant Incentive (\$/kW-Yr.)		50																		
Program Participation Rate (From Market Adoption Curve Tab)		1.5%	6.6%	15.4%	28.5%	42.0%	55.0%	67.0%	78.0%	87.0%	94.0%	99.0%	102.0%	104.0%	105.0%	106.0%	106.0%	106.0%	106.0%	106.0%
Annual Number of Control Hours		60																		
Type of Savings Factor (Select from drop-down menu)		Percent of CP Load																		
Program Savings Factor (Percent of CP Load)		23.4%																		
Per Participant CP Reduction (kW)		0.84																		
LOAD REDUCTION																				
Number of Program Participants		1,404	12,055	42,264	74,786	100,942	131,291	161,667	192,000	222,358	252,672	282,920	313,112	343,250	373,334	403,364	433,340	463,262	493,130	522,944
Base Factor of Demand (kW)		227,111	452,742	678,487	904,232	1,129,977	1,355,722	1,581,467	1,807,212	2,032,957	2,258,702	2,484,447	2,710,192	2,935,937	3,161,682	3,387,427	3,613,172	3,838,917	4,064,662	4,290,407
Base Participant CP Demand (kW)		5,018	42,849	149,455	262,936	376,417	489,898	603,379	716,860	830,341	943,822	1,057,303	1,170,784	1,284,265	1,397,746	1,511,227	1,624,708	1,738,189	1,851,670	1,965,151
Coincident Peak Demand Reduction @ (kW)		1,181	10,007	35,012	65,017	95,022	125,027	155,032	185,037	215,042	245,047	275,052	305,057	335,062	365,067	395,072	425,077	455,082	485,087	515,092
Coincident Peak Demand Reduction @ (kW)		1,253	10,679	37,184	67,189	97,194	127,199	157,204	187,209	217,214	247,219	277,224	307,229	337,234	367,239	397,244	427,249	457,254	487,259	517,264
CP Reduction		1,177	10,000	35,005	65,010	95,015	125,020	155,025	185,030	215,035	245,040	275,045	305,050	335,055	365,060	395,065	425,070	455,075	485,080	515,085
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$216,209,998	\$96,406	\$1,944,369	\$5,501,960	\$9,879,209	\$13,438,478	\$16,343,747	\$19,326,909	\$22,381,863	\$25,527,620	\$28,763,380	\$32,089,140	\$35,505,900	\$39,013,660	\$42,612,420	\$46,302,180	\$50,082,940	\$53,954,700	\$57,917,460
COSTS																				
Newly Installed Units (Includes replacement of units at end of useful life)		1537	11663	33070	53811	78422	106833	138244	172655	210066	250477	292888	337299	383710	431121	479532	528943	579354	630765	683176
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																				
Utility/PA Per Unit Equipment Cost		\$249	\$254	\$259	\$264	\$270	\$275	\$280	\$286	\$292	\$298	\$304	\$310	\$316	\$322	\$329	\$335	\$342	\$349	\$356
Utility/PA Per Unit Labor Cost		\$200	\$205	\$210	\$216	\$222	\$228	\$234	\$240	\$247	\$253	\$260	\$267	\$274	\$281	\$288	\$295	\$302	\$310	\$317
Total Utility/PA Installed Equipment Cost Per Unit		\$449	\$459	\$469	\$480	\$492	\$503	\$516	\$529	\$541	\$555	\$568	\$582	\$597	\$613	\$629	\$646	\$664	\$683	\$703
Variable Utility/PA Installed Equipment Cost		\$141,101,481	\$196,344	\$519,082	\$1,171,526	\$2,079,852	\$3,133,614	\$4,347,121	\$5,720,274	\$7,262,381	\$8,983,434	\$10,793,541	\$12,692,701	\$14,689,914	\$16,785,180	\$18,979,500	\$21,271,874	\$23,664,302	\$26,156,784	\$28,749,320
Amortized Utility/PA Installed Equipment Cost		\$155,488,381	\$109,218	\$300,218	\$512,330	\$746,052	\$1,001,011	\$1,276,414	\$1,572,041	\$1,887,721	\$2,223,464	\$2,579,281	\$2,955,184	\$3,351,074	\$3,766,951	\$4,202,824	\$4,658,692	\$5,134,564	\$5,630,441	\$6,146,324
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																				
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0.00	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Equipment Participant Incentives (\$/kW-Yr.)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Implementation		\$100,000																		
Admin		\$23,163	\$23,626	\$24,099	\$24,581	\$25,072	\$25,574	\$26,085	\$26,607	\$27,139	\$27,682	\$28,236	\$28,800	\$29,374	\$29,958	\$30,552	\$31,156	\$31,770	\$32,394	\$33,028
Marketing		\$70,181	\$64,155	\$1,570,522	\$1,738,244	\$1,406,783	\$1,123,334	\$1,147,344	\$1,172,812	\$1,199,084	\$1,226,027	\$1,253,612	\$1,281,829	\$1,310,674	\$1,340,148	\$1,370,252	\$1,400,986	\$1,432,350	\$1,464,344	\$1,496,958
Evaluation		\$50,000	\$51,000	\$52,000	\$53,000	\$54,122	\$55,264	\$56,428	\$57,614	\$58,822	\$60,052	\$61,304	\$62,578	\$63,874	\$65,192	\$66,532	\$67,894	\$69,278	\$70,684	\$72,112
Other		\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	
Fixed Program Costs		\$55,307,953	\$276,364	\$24,597	\$2,746,710	\$1,796,303	\$4,210,000	\$4,545,100	\$5,210,275	\$6,021,614	\$6,978,178	\$8,081,778	\$9,336,407	\$10,742,092	\$12,298,844	\$13,996,674	\$15,835,682	\$17,815,974	\$19,938,548	\$22,204,500
Central Controller Software Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Hardware Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL UTILITY COSTS (No Amortization)		\$202,461,434	\$1,048,308	\$6,860,688	\$19,818,236	\$32,778,155	\$18,561,704	\$16,821,441	\$17,748,569	\$18,703,334	\$19,749,214	\$20,764,355	\$21,744,435	\$22,684,079	\$23,588,149	\$24,450,668	\$25,276,674	\$26,062,274	\$26,804,468	\$27,500,256
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$202,996,335	\$1,581,582	\$1,826,714	\$5,938,101	\$9,566,260	\$12,043,121	\$14,030,514	\$15,382,916	\$16,800,136	\$18,287,264	\$19,838,317	\$21,448,301	\$23,112,234	\$24,827,116	\$26,589,948	\$28,397,730	\$30,247,462	\$32,137,144	\$34,062,776
TOTAL PROGRAM COSTS - THE (No Amortization)		\$202,461,434	\$1,048,308	\$6,860,688	\$19,818,236	\$32,778,155	\$18,561,704	\$16,821,441	\$17,748,569	\$18,703,334	\$19,749,214	\$20,764,355	\$21,744,435	\$22,684,079	\$23,588,149	\$24,450,668	\$25,276,674	\$26,062,274	\$26,804,468	\$27,500,256
TOTAL PROGRAM COSTS - THE (Amortized Installed Equipment Cost)		\$202,996,335	\$1,581,582	\$1,826,714	\$5,938,101	\$9,566,260	\$12,043,121	\$14,030,514	\$15,382,916	\$16,800,136	\$18,287,264	\$19,838,317	\$21,448,301	\$23,112,234	\$24,827,116	\$26,589,948	\$28,397,730	\$30,247,462	\$32,137,144	\$34,062,776
UTILITY COST TEST																				
Total Benefits		\$216,209,998																		
Total Costs		\$202,461,434																		
NET Benefits Cost Ratio		1.07																		
TOTAL RESOURCE COST TEST																				
Total Benefits		\$216,209,998																		
Total Costs		\$202,461,434																		
NET Benefits Cost Ratio		1.07																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

RESIDENTIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

		Year End																	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Program Parameters																			
Project Name:	Ameren DR Potential																		
Demand Response Program Name:	Residential Critical Peak Pricing without F																		
Firm Load Reduction? (Select from drop-down menu)	NO																		
New Program? (Select from drop-down menu)	YES																		
Load Shifting Program? (Select from drop-down menu)	YES																		
Number of Control Units Per Participant	1																		
If Existing Program - Total Number of Participants	1																		
Age of Existing Program - Years	1																		
Item	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Eligible Customers (From the Eligible Customer Tab)	104,026	109,217	275,194	348,959	429,802	516,447	603,207	690,161	777,313	864,660	855,839	866,618	867,598	868,577	869,556	870,535	871,514	872,493	873,472
Coincident Peak (CP) Load Per Eligible Customer (kW)	3.62																		
Coincident Peak Load Efficiency Gain (Year 20)	0%	0.52%	1.20%	1.99%	2.81%	3.66%	4.40%	5.14%	5.84%	6.52%	7.10%	7.63%	8.11%	8.55%	8.96%	9.39%	9.78%	10.14%	10.48%
Participant Incentive (\$/kW-Yr.)	\$0																		
Program Participation Rate (From Market Adoption Curve Tab)	0.5%	5.1%	11.9%	15.8%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%
Annual Number of Control Hours	60																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)	13.0%																		
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants	531	10,160	32,748	55,370	73,066	87,795	102,545	117,327	132,143	146,992	147,359	147,325	147,492	147,658	147,825	147,991	148,157	148,324	148,491
Base Factor of Demand (kW)	373,368	707,791	971,148	1,233,654	1,492,838	1,750,322	2,008,550	2,264,881	2,521,791	2,778,002	2,994,890	2,872,148	2,882,378	2,932,947	2,843,545	2,833,554	2,872,512	2,818,091	2,818,091
Base Participant CP Demand (kW)	1,904	36,199	115,804	193,433	253,973	302,823	350,666	398,596	445,704	492,660	490,431	488,435	486,638	485,011	483,250	481,704	480,357	479,076	477,850
Coincident Peak Demand Reduction (kW)	247	4,688	14,997	25,052	32,889	39,216	45,450	51,618	57,719	63,799	63,511	63,252	62,808	62,381	62,381	62,381	62,381	62,381	62,381
Coincident Peak Demand Reduction @ Cap (kW)	262	4,972	15,907	26,372	34,885	43,055	49,288	54,760	60,221	67,071	67,364	67,090	66,981	66,818	66,578	66,355	66,150	65,964	65,804
Benefits	1177																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$46,776,490	\$26,132	\$426,007	\$2,305,289	\$4,013,244	\$5,374,114	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,623	\$11,509,803	\$11,886,887	\$11,872,168	\$12,264,094	\$12,264,893	\$12,445,617	\$12,473,624	\$12,800,987	\$13,133,724
COSTS																			
Newly Installed Units (Includes replacement of units at end of useful life)	531	9630	22588	22422	17896	14730	14749	14782	14816	14849	166	166	167	166	166	166	166	166	166
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Variable Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortized Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Equipment Participant Incentive (\$/kW-Yr.)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Implementation	\$100,000																		
Admin	\$23,143	\$23,626	\$24,099	\$24,581	\$25,072	\$25,574	\$26,085	\$26,607	\$27,139	\$27,682	\$28,236	\$28,800	\$29,376	\$29,964	\$30,563	\$31,174	\$31,798	\$32,434	\$33,081
Marketing	\$26,537	\$40,107	\$1,170,027	\$1,189,737	\$564,936	\$613,135	\$830,498	\$480,612	\$607,955	\$882,292	\$102,145	\$10,348	\$10,566	\$10,740	\$10,881	\$11,001	\$11,101	\$11,195	\$11,283
Evaluation	\$50,000	\$51,000	\$52,000	\$53,000	\$54,122	\$55,264	\$56,408	\$57,434	\$58,434	\$59,459	\$60,500	\$61,559	\$62,639	\$63,741	\$64,864	\$66,011	\$67,184	\$68,393	\$70,023
Phase Program Costs	\$7,306,046	\$199,690	\$565,734	\$1,251,146	\$1,267,379	\$1,047,749	\$893,913	\$912,891	\$933,053	\$953,677	\$974,729	\$996,330	\$101,317	\$103,354	\$105,408	\$107,518	\$109,669	\$111,862	\$114,099
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Hardware Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL UTILITY COSTS (No Amortization)	\$7,306,046	\$199,690	\$565,734	\$1,251,146	\$1,267,379	\$1,047,749	\$893,913	\$912,891	\$933,053	\$953,677	\$974,729	\$996,330	\$101,317	\$103,354	\$105,408	\$107,518	\$109,669	\$111,862	\$114,099
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$7,306,046	\$199,690	\$565,734	\$1,251,146	\$1,267,379	\$1,047,749	\$893,913	\$912,891	\$933,053	\$953,677	\$974,729	\$996,330	\$101,317	\$103,354	\$105,408	\$107,518	\$109,669	\$111,862	\$114,099
TOTAL PROGRAM COSTS - TRC (No Amortization)	\$7,306,046	\$199,690	\$565,734	\$1,251,146	\$1,267,379	\$1,047,749	\$893,913	\$912,891	\$933,053	\$953,677	\$974,729	\$996,330	\$101,317	\$103,354	\$105,408	\$107,518	\$109,669	\$111,862	\$114,099
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)	\$7,306,046	\$199,690	\$565,734	\$1,251,146	\$1,267,379	\$1,047,749	\$893,913	\$912,891	\$933,053	\$953,677	\$974,729	\$996,330	\$101,317	\$103,354	\$105,408	\$107,518	\$109,669	\$111,862	\$114,099
UTILITY COST TEST																			
Total Benefits	\$46,776,490																		
Total Costs	\$7,306,046																		
TRC Benefit Cost Ratio	11.87																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$46,776,490																		
Total Costs	\$7,306,046																		
TRC Benefit Cost Ratio	11.87																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

User Input		Year End																	
Project Name: Ameren DR Prap/DR Com Capacity Bidding		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Eligible Customers (From the Eligible Customers Tab)	Component of DR	1,013	1,888	2,472	3,046	3,740	4,528	5,287	6,048	6,808	7,569	8,330	9,091	9,852	10,613	11,374	12,135	12,896	13,657
Coincident Peak (CP) Load Per Eligible Customer (kW)		221.05																	
Coincident Peak Load Efficiency Gain (Hour 2)		1.00%	2.18%	3.49%	4.76%	5.87%	6.85%	7.80%	8.63%	9.46%	10.21%	10.89%	11.50%	12.03%	12.27%	12.62%	12.78%	12.89%	12.95%
Participant Incentive (\$/kW-yr)		550.00																	
Program Participation Rate (From Market Adoption Curve Tab)	Calculate on Basis of Participation Rate	0.3%	0.3%	0.7%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Annual Number of Control Hours (If load shifting program, enter 0)		80																	
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)		19.3%																	
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants		1	6	17	28	37	45	53	60	68	76	84	92	100	108	116	124	132	140
Base Sector CP Demand (kW)		221,569	402,199	527,355	641,269	778,205	932,354	1,077,511	1,222,378	1,367,411	1,502,288	1,640,035	1,782,342	1,928,717	2,079,656	2,234,656	2,393,216	2,554,934	2,719,409
Base Participant CP Demand (kW)		155	1,325	3,691	5,964	7,982	9,324	10,775	12,314	13,924	15,602	17,350	19,168	21,056	23,014	25,042	27,140	29,308	31,546
Coincident Peak Demand Reduction (kW)		30	289	720	1,163	1,557	1,818	2,101	2,382	2,657	2,929	3,199	3,468	3,736	4,004	4,272	4,540	4,808	5,076
Coincident Peak Demand Reduction@ Gen (kW)		32	251	756	1,222	1,595	1,911	2,208	2,503	2,792	3,078	3,361	3,642	3,921	4,200	4,478	4,756	5,034	5,312
(\$/kW/yr)		571,180	568	556	542	527	512	497	482	467	452	437	422	407	392	377	362	347	332
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$4,084,486	\$2,452	\$32,346	\$114,529	\$389,323	\$729,332	\$1,071,884	\$1,413,690	\$1,755,718	\$2,097,963	\$2,440,420	\$2,782,980	\$3,125,643	\$3,468,410	\$3,811,277	\$4,154,144	\$4,497,011	\$4,839,878
COSTS																			
Recently Installed Units (Includes replacement of units at end of useful life)		1	5	12	11	9	8	8	8	8	8	8	8	8	8	8	8	8	8
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost		\$1,132	\$1,135	\$1,137	\$1,138	\$1,204	\$1,228	\$1,253	\$1,278	\$1,303	\$1,329	\$1,356	\$1,383	\$1,411	\$1,439	\$1,468	\$1,497	\$1,527	\$1,558
Utility/PA Per Unit Labor Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit		\$1,132	\$1,135	\$1,137	\$1,138	\$1,204	\$1,228	\$1,253	\$1,278	\$1,303	\$1,329	\$1,356	\$1,383	\$1,411	\$1,439	\$1,468	\$1,497	\$1,527	\$1,558
Variable Utility/PA Installed Equipment Cost		\$789	\$5,622	\$11,470	\$13,039	\$15,922	\$19,881	\$24,916	\$30,017	\$35,184	\$40,417	\$45,717	\$51,084	\$56,517	\$62,017	\$67,584	\$73,217	\$78,917	\$84,684
Amortized Utility/PA Installed Equipment Cost		\$74	\$566	\$1,796	\$2,822	\$3,750	\$4,588	\$5,405	\$6,218	\$7,028	\$7,836	\$8,643	\$9,450	\$10,257	\$11,064	\$11,871	\$12,678	\$13,485	\$14,292
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (\$/kW-yr)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$/Wh		5%	\$602	\$1,815	\$2,933	\$3,827	\$4,585	\$5,299	\$6,007	\$6,700	\$7,388	\$8,071	\$8,750	\$9,425	\$10,096	\$10,763	\$11,426	\$12,085	\$12,740
Total Non-Equipment Program Incentive Costs		\$1,203,152	\$1,666.16	\$13,349.67	\$39,631.33	\$64,041.96	\$88,361.30	\$100,113.46	\$115,699.94	\$133,147.91	\$146,291.84	\$161,305.18	\$169,230.35	\$198,223.25	\$198,571.98	\$198,054.25	\$197,567.56	\$197,172.21	\$197,287.49
Implementation, Admin, Marketing		\$132,849	\$35,671	\$39,861	\$40,134	\$40,082	\$40,227	\$40,866	\$41,693	\$42,525	\$43,385	\$44,248	\$45,148	\$46,048	\$46,948	\$47,848	\$48,748	\$49,648	\$50,548
Fixed Program Costs		\$568,349																	
Control Controller Software Costs		\$2,300	\$2,500	\$2,601	\$2,615	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,107	\$3,168	\$3,229	\$3,291	\$3,354	\$3,417	\$3,481
Control Controller Hardware Cost		\$12,500																	
Control Controller Costs		\$53,185	\$15,000	\$2,950	\$2,601	\$2,615	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,107	\$3,168	\$3,229	\$3,291	\$3,354	\$3,417
TOTAL UTILITY COSTS (No Amortization)		\$1,996,366	\$192,304	\$46,398	\$78,364	\$120,048	\$172,271	\$235,782	\$310,888	\$398,430	\$498,484	\$611,040	\$737,196	\$876,952	\$1,030,308	\$1,199,374	\$1,384,250	\$1,585,546	\$1,803,462
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$1,900,352	\$149,582	\$51,920	\$83,799	\$129,851	\$183,108	\$249,690	\$329,786	\$424,550	\$534,085	\$658,491	\$797,766	\$951,912	\$1,121,828	\$1,308,504	\$1,512,840	\$1,734,936	\$2,000,000
TOTAL PROGRAM COSTS - TIC (No Amortization)		\$692,714	\$448,637	\$44,843	\$55,933	\$66,006	\$76,120	\$86,269	\$96,448	\$106,648	\$116,869	\$127,111	\$137,374	\$147,658	\$157,963	\$168,289	\$178,636	\$188,994	\$199,363
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)		\$680,389	\$447,616	\$43,771	\$54,866	\$64,889	\$74,947	\$85,037	\$95,150	\$105,277	\$115,418	\$125,574	\$135,745	\$145,931	\$156,132	\$166,348	\$176,579	\$186,825	\$197,087
UTILITY COST TEST																			
Total Benefits		\$4,084,486																	
Total Costs		\$1,898,208																	
UTC Benefit Cost Ratio		2.15																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$4,084,486																	
Total Costs		\$692,714																	
TIC Benefit Cost Ratio		5.90																	

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

User Input		Year End																			
PROJECT NAME: Ameren DR Potential Com (CP Rate with Enabling Tech)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Firm Load Reduction? (Select from drop-down menu)		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Coincident Peak (CP) Load Per Eligible Customer (kW)		12,136	24,432	36,893	49,321	62,336	75,278	87,873	100,482	113,104	125,741	138,410	151,079	163,749	176,418	189,088	201,757	214,426	227,095	239,764	
Coincident Peak Load Efficiency Gain (Year 20)		0%	1.00%	2.38%	3.49%	4.76%	5.87%	6.83%	7.80%	8.63%	9.40%	10.21%	10.89%	11.50%	11.93%	12.27%	12.62%	12.78%	12.85%	12.93%	
Participant Incentive (\$/kW-yr)																					
Program Participation Rate (From Market Adoption Curve Tab)		1.4%	4.0%	14.0%	18.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
Annual Number of Control Hours (If load shifting program, enter 0)		50																			
Type of Savings Factor (Select from drop-down menu)		Percent of CP Load																			
Program Savings Factor (Percent of CP Load)		21.5%																			
Per Participant CP Reduction (kW)																					
LOAD REDUCTIONS																					
Number of Program Participants		170	1,460	5,105	8,211	12,463	15,056	17,375	20,090	22,621	25,148	27,562	29,976	32,390	34,804	37,218	39,632	42,046	44,460	46,874	
Base Load CP Demand (kW)		218,270	436,170	654,255	872,340	1,090,425	1,308,510	1,526,595	1,744,680	1,962,765	2,180,850	2,398,935	2,617,020	2,835,105	3,053,190	3,271,275	3,489,360	3,707,445	3,925,530	4,143,615	
Base Program CP Demand (kW)		9,205	81,505	271,685	371,865	472,045	572,225	672,405	772,585	872,765	972,945	1,073,125	1,173,305	1,273,485	1,373,665	1,473,845	1,574,025	1,674,205	1,774,385	1,874,565	
Coincident Peak Demand Reduction (kW)		109	1,379	382,570	500,475	617,980	735,485	852,990	970,495	1,088,000	1,205,505	1,323,010	1,440,515	1,558,020	1,675,525	1,793,030	1,910,535	2,028,040	2,145,545	2,263,050	
Coincident Peak Demand Reduction @ 20% (kW)		109	1,379	382,570	500,475	617,980	735,485	852,990	970,495	1,088,000	1,205,505	1,323,010	1,440,515	1,558,020	1,675,525	1,793,030	1,910,535	2,028,040	2,145,545	2,263,050	
UTILITY COSTS		\$118,320,100	\$54,987,179	\$25,252,256	\$5,430,000	\$7,466,130	\$9,002,240	\$10,648,350	\$12,294,460	\$13,940,570	\$15,586,680	\$17,232,790	\$18,878,900	\$20,525,010	\$22,171,120	\$23,817,230	\$25,463,340	\$27,109,450	\$28,755,560	\$30,401,670	
INCENTIVES																					
Mainly Installed Units (Includes replacement of units at end of useful life)		281	2144	6118	6692	5779	4288	4165	4171	4275	4180	304	2166	6141	8715	5402	4311	4289	4194	4104	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																					
Utility/PA Per Unit Equipment Cost		\$519	\$530	\$540	\$551	\$562	\$574	\$585	\$597	\$609	\$621	\$633	\$646	\$659	\$672	\$685	\$699	\$713	\$727	\$741	
Utility/PA Per Unit Control Cost		\$208	\$215	\$220	\$225	\$231	\$237	\$243	\$249	\$255	\$261	\$267	\$273	\$279	\$285	\$291	\$297	\$303	\$309	\$315	
Variable Utility/PA Installed Equipment Cost		\$42,863,625	\$218,229	\$1,012,387	\$4,897,864	\$9,364,178	\$14,021,644	\$18,744,380	\$23,502,116	\$28,294,852	\$33,122,588	\$37,990,324	\$42,898,060	\$47,845,796	\$52,833,532	\$57,861,268	\$62,929,004	\$68,036,740	\$73,184,476	\$78,372,212	\$83,600,948
Replaced Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																					
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share of Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-yr)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentives Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation, Admin, Marketing		\$50,989	\$99,241	\$226,214	\$289,159	\$111,132	\$178,987	\$178,404	\$181,143	\$185,959	\$189,957	\$40,411	\$41,200	\$42,088	\$42,977	\$43,799	\$44,661	\$45,525	\$46,480	\$47,480	
O&M		\$6,137	\$17,525	\$206,736	\$276,052	\$510,000	\$639,100	\$762,402	\$888,120	\$1,012,807	\$1,136,294	\$1,259,026	\$1,381,287	\$1,503,548	\$1,625,809	\$1,748,070	\$1,870,331	\$1,992,592	\$2,114,853	\$2,237,114	
Fixed Program Costs		\$10,346,379	\$17,525	\$176,736	\$423,270	\$621,132	\$778,087	\$940,506	\$1,099,262	\$1,258,019	\$1,416,776	\$1,575,533	\$1,734,290	\$1,893,047	\$2,051,804	\$2,210,561	\$2,369,318	\$2,528,075	\$2,686,832	\$2,845,589	\$3,004,346
Control Center Software Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Control Center Hardware Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Control Center O&M		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Incentives)		\$12,486,421	\$121,715	\$1,019,133	\$5,330,284	\$9,364,178	\$12,514,026	\$16,461,130	\$20,308,134	\$24,155,138	\$28,002,142	\$31,849,146	\$35,696,150	\$39,543,154	\$43,390,158	\$47,237,162	\$51,084,166	\$54,931,170	\$58,778,174	\$62,625,178	\$66,472,182
TOTAL UTILITY COSTS (Including Variable Equipment Costs)		\$52,081,504	\$124,427	\$412,285	\$1,347,462	\$2,272,089	\$2,983,245	\$3,694,401	\$4,405,557	\$5,116,713	\$5,827,869	\$6,539,025	\$7,250,181	\$7,961,337	\$8,672,493	\$9,383,649	\$10,094,805	\$10,805,961	\$11,517,117	\$12,228,273	\$12,939,429
TOTAL PROGRAM COSTS - TIC (No Incentives)		\$52,081,504	\$124,427	\$412,285	\$1,347,462	\$2,272,089	\$2,983,245	\$3,694,401	\$4,405,557	\$5,116,713	\$5,827,869	\$6,539,025	\$7,250,181	\$7,961,337	\$8,672,493	\$9,383,649	\$10,094,805	\$10,805,961	\$11,517,117	\$12,228,273	\$12,939,429
TOTAL PROGRAM COSTS - TIC (Including Installed Equipment Cost)		\$52,081,504	\$124,427	\$412,285	\$1,347,462	\$2,272,089	\$2,983,245	\$3,694,401	\$4,405,557	\$5,116,713	\$5,827,869	\$6,539,025	\$7,250,181	\$7,961,337	\$8,672,493	\$9,383,649	\$10,094,805	\$10,805,961	\$11,517,117	\$12,228,273	\$12,939,429
UTILITY COST TEST																					
Total Benefits		\$118,320,100																			
Total Costs		\$52,081,504																			
Utility Benefit Cost Ratio		2.27																			
TOTAL RESOURCE COST TEST																					
Total Benefits		\$118,320,100																			
Total Costs		\$52,081,504																			
TIC Benefit Cost Ratio		2.27																			

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

- User Input																			
PROJECT NAME: DEMAND RESPONSE PROGRAM NAME:		Ameren DR Prap Com CPP rate w/ enabling technology																	
Firm Load Reduction? (Select from drop-down menu)		NO																	
New Program? (Select from drop-down menu)		YES																	
Load Shifting Program? (Select from drop-down menu)		YES																	
Number of Control Units Per Participant		1																	
If Existing Program - Total Number of Participants		2018																	
Year of Existing Program - Year		Year End																	
Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers Tab)	11,630	30,344	42,868	55,263	68,670	82,953	96,831	110,727	124,636	138,561	152,507	166,474	180,462	194,471	208,500	222,549	236,618	250,707	
Coincident Peak (CP) Load Per Eligible Customer (kW)	18.17																		
Coincident Peak Load Efficiency Gain (Per 20)	0%	1.00%	2.18%	3.49%	4.76%	5.87%	6.85%	7.80%	8.63%	9.46%	10.21%	10.89%	11.50%	12.07%	12.62%	13.16%	13.69%	14.21%	
Participant Incentive (\$/kW-yr.)																			
Program Participation Rate (From Market Adoption Curve Tab)	1.3%	5.4%	12.0%	16.7%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	
Annual Number of Control Hours (If load shifting program, enter 0)	60																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)	11.3%																		
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants	197	1,639	5,401	8,251	12,361	14,932	17,480	19,914	22,435	24,941	27,455	29,969	32,482	34,996	37,510	40,024	42,537	45,051	
Base Sector CP Demand (kW)	201,213	332,235	751,382	956,230	1,174,357	1,403,789	1,621,869	1,838,008	2,050,161	2,260,219	2,464,245	2,670,132	2,876,787	3,083,212	3,289,516	3,495,700	3,701,764	3,907,708	
Base Participant CP Demand (kW)	3,542	28,119	94,699	160,071	211,384	252,682	291,954	330,841	369,029	406,825	443,164	479,094	514,564	549,624	584,324	618,614	652,544	686,064	
Coincident Peak Demand Reduction (kW)	400	3,200	10,701	18,088	23,886	28,533	32,961	37,385	41,700	45,971	50,168	54,300	58,368	62,372	66,322	70,218	74,062	77,854	
Coincident Peak Demand Reduction@ Gen (kW)	421	3,458	11,245	18,088	23,702	28,005	32,669	37,287	41,851	46,360	50,814	55,214	59,560	63,852	68,090	72,274	76,404	80,480	
Benefits																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$61,918,969	\$82,374	\$435,330	\$1,660,089	\$2,870,824	\$3,866,728	\$4,724,849	\$5,566,594	\$6,422,642	\$7,309,260	\$8,216,783	\$9,122,180	\$10,039,244	\$10,957,886	\$11,879,218	\$12,803,281	\$13,730,406	\$14,660,171	\$15,593,226
COSTS																			
RPV	197	1,442	3,763	3,850	3,110	2,571	2,498	2,501	2,504	2,506	14	14	14	14	14	14	14	14	
Realty Installed Units (Includes replacement of units at end of useful life)	197	1,442	3,763	3,850	3,110	2,571	2,498	2,501	2,504	2,506	14	14	14	14	14	14	14	14	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Installed Equipment Cost Per Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Variable Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Amortized Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-h)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation, Admin, Marketing	\$545,046	\$106,668	\$229,547	\$238,748	\$203,465	\$177,808	\$177,253	\$180,976	\$184,748	\$188,604	\$40,446	\$41,266	\$42,078	\$42,922	\$43,790	\$44,656	\$45,549	\$46,470	
Fixed Program Costs	\$1,991,195	\$545,046	\$106,668	\$229,547	\$238,748	\$203,465	\$177,808	\$177,253	\$180,976	\$184,748	\$188,604	\$40,446	\$41,266	\$42,078	\$42,922	\$43,790	\$44,656	\$45,549	\$46,470
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortization)	\$1,991,195	\$545,046	\$106,668	\$229,547	\$238,748	\$203,465	\$177,808	\$177,253	\$180,976	\$184,748	\$188,604	\$40,446	\$41,266	\$42,078	\$42,922	\$43,790	\$44,656	\$45,549	\$46,470
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,991,195	\$545,046	\$106,668	\$229,547	\$238,748	\$203,465	\$177,808	\$177,253	\$180,976	\$184,748	\$188,604	\$40,446	\$41,266	\$42,078	\$42,922	\$43,790	\$44,656	\$45,549	\$46,470
TOTAL PROGRAM COSTS - THC (No Amortization)	\$1,991,195	\$545,046	\$106,668	\$229,547	\$238,748	\$203,465	\$177,808	\$177,253	\$180,976	\$184,748	\$188,604	\$40,446	\$41,266	\$42,078	\$42,922	\$43,790	\$44,656	\$45,549	\$46,470
TOTAL PROGRAM COSTS - THC (Amortized Installed Equipment Cost)	\$1,991,195	\$545,046	\$106,668	\$229,547	\$238,748	\$203,465	\$177,808	\$177,253	\$180,976	\$184,748	\$188,604	\$40,446	\$41,266	\$42,078	\$42,922	\$43,790	\$44,656	\$45,549	\$46,470
UTILITY COSTS TEST																			
Total Benefits	\$61,918,969																		
Total Costs	\$1,991,195																		
THC Benefits Cost Ratio	\$110																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$61,918,969																		
Total Costs	\$1,991,195																		
THC Benefits Cost Ratio	\$110																		

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COMMERCIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035			
Eligible Customers (From the Eligible Customers Tab)	14,423	26,826	35,007	42,982	52,588	63,516	74,141	84,780	95,429	106,090	106,148	106,205	106,262	106,319	106,376	106,434	106,491	106,548		
Coincident Peak (CP) Load Per Eligible Customer (kW)	20.12																			
Coincident Peak Load Efficiency Gain (Per 20)	0%	1.00%	2.18%	3.49%	4.76%	5.87%	6.85%	7.80%	8.63%	9.46%	10.21%	10.89%	11.50%	11.93%	12.27%	12.62%	12.78%	12.89%	12.95%	
Participant Incentive (\$/kW-Yr.)																				
Program Participation Rate (From Market Adoption Curve Tab)	0.1%	0.3%	0.7%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Annual Number of Control Hours (If load shifting program, enter 0)	80																			
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																			
Program Savings Factor (Percent of CP Load)	7.0%																			
Per Participant CP Reduction (kW)																				
LOAD REDUCTION																				
Number of Program Participants	10	80	245	400	526	635	741	848	954	1,061	1,063	1,062	1,063	1,063	1,064	1,064	1,065	1,065	1,065	
Base Sector CP Demand (kW)	201,227	128,020	679,819	822,766	996,137	1,190,559	1,376,897	1,558,788	1,738,687	1,916,744	1,902,264	1,892,360	1,882,244	1,876,825	1,870,407	1,867,915	1,866,375	1,866,365		
Base Participant CP Demand (kW)	201	1,584	4,759	7,661	9,861	11,906	13,756	15,588	17,387	19,187	19,033	18,913	18,832	18,748	18,704	18,679	18,666	18,664		
Coincident Peak Demand Reduction (kW)	14	111	333	536	697	813	963	1,093	1,217	1,342	1,332	1,334	1,338	1,344	1,349	1,348	1,347	1,346		
Coincident Peak Demand Reduction@ Gen (kW)	15	117	350	564	733	876	1,012	1,147	1,279	1,410	1,400	1,391	1,385	1,381	1,376	1,374	1,373	1,373		
NPV	\$1,871,758	\$1,178	\$15,026	\$53,068	\$87,298	\$125,948	\$164,307	\$202,672	\$241,240	\$279,872	\$297,748	\$295,124	\$293,962	\$294,333	\$294,213	\$294,172	\$294,162	\$294,145	\$294,080	
COSTS																				
Recently Installed Units (Includes replacement of units at end of useful life)	30	70	165	155	126	109	106	106	106	107	1	1	1	1	1	1	1	1		
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																				
Utility/PA Per Unit Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Installed Equipment Cost Per Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Variable Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Amortized Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																				
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-Yr.)	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	
Total Non-Equipment Program Incentive Costs	\$421,100	\$592	\$4,665	\$14,002	\$22,542	\$28,310	\$36,031	\$40,476	\$45,866	\$51,159	\$56,399	\$56,002	\$55,649	\$55,413	\$55,224	\$55,055	\$54,962	\$54,862	\$54,817	
Implementation, Admin, Marketing		\$132,999	\$36,733	\$42,368	\$42,000	\$42,000	\$41,909	\$42,577	\$41,435	\$44,310	\$45,203	\$39,646	\$40,438	\$41,246	\$42,072	\$42,913	\$43,771	\$44,647	\$45,539	
Fixed Program Costs	\$581,164	\$132,999	\$36,733	\$42,368	\$42,000	\$42,000	\$41,909	\$42,577	\$41,435	\$44,310	\$45,203	\$39,646	\$40,438	\$41,246	\$42,072	\$42,913	\$43,771	\$44,647	\$45,539	
Central Controller Software Costs	\$2,500	\$2,500	\$2,601	\$2,603	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501		
Central Controller Hardware Cost	\$12,000									\$12,000										
Central Controller Costs	\$55,185	\$15,000	\$2,500	\$2,601	\$2,603	\$2,706	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501		
TOTAL UTILITY COSTS (No Amortization)	\$1,056,450	\$448,591	\$43,944	\$58,971	\$67,885	\$74,017	\$79,700	\$85,868	\$92,173	\$98,399	\$104,590	\$111,195	\$99,195	\$99,890	\$100,529	\$101,247	\$102,008	\$102,801	\$103,697	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,056,450	\$448,591	\$43,944	\$58,971	\$67,885	\$74,017	\$79,700	\$85,868	\$92,173	\$98,399	\$104,590	\$111,195	\$99,195	\$99,890	\$100,529	\$101,247	\$102,008	\$102,801	\$103,697	
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$634,349	\$147,999	\$39,283	\$44,969	\$46,343	\$44,706	\$44,669	\$45,392	\$46,307	\$47,239	\$48,191	\$55,193	\$43,546	\$44,417	\$45,306	\$46,211	\$47,136	\$48,079	\$49,040	
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$634,349	\$147,999	\$39,283	\$44,969	\$46,343	\$44,706	\$44,669	\$45,392	\$46,307	\$47,239	\$48,191	\$55,193	\$43,546	\$44,417	\$45,306	\$46,211	\$47,136	\$48,079	\$49,040	
UTILITY COST TEST																				
Total Benefits	\$1,871,758																			
Total Costs	\$1,855,958																			
TIC Benefits Cost Ratio	1.01																			
TOTAL RESOURCE COST TEST																				
Total Benefits	\$1,871,758																			
Total Costs	\$634,349																			
TIC Benefits Cost Ratio	2.95																			

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																		
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Project Name	Ameren DR Prap/air Com D.L.C. - Air Conditioning																		
Demand Response Program Name	Com D.L.C. - Air Conditioning																		
Firm Load Reduction? (Select from drop-down menu)	YES																		
New Program? (Select from drop-down menu)	NO																		
Load Shifting Program? (Select from drop-down menu)	NO																		
Number of Control Units Per Participant	1																		
# of Existing Program - Year	0																		
Eligible Customers (From the Eligible Customers Tab)	119,020	117,065	110,392	101,289	97,725	93,366	88,416	83,460	78,499	73,533	68,572	63,612	58,651	53,691	48,730	43,770	38,810	33,850	
Coincident Peak (CP) Load Per Eligible Customer (kW)	6.05																		
Coincident Peak Load Efficiency Gain (Per %)	0%	0.66%	1.49%	2.49%	3.50%	4.49%	5.47%	6.50%	7.40%	8.31%	9.19%	10.01%	10.83%	11.69%	12.57%	13.44%	13.93%	14.34%	14.75%
Participant Incentive (\$/kW-yr.)	0.2%																		
Program Participation Rate (From Market Adoption Curve Tab)	0.2%																		
Annual Number of Control Hours	80																		
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																		
Program Savings Factor (Percent of CP Load)	1.00																		
Per Participant CP Reduction (kW)	1.00																		
LOAD REDUCTION																			
Number of Program Participants	250	1,054	2,318	2,882	2,932	2,801	2,652	2,504	2,355	2,206	2,057	1,908	1,759	1,610	1,461	1,312	1,163	1,014	865
Base Sector CP Demand (kW)	712,443	694,975	646,656	605,059	582,449	571,807	492,232	451,682	423,713	402,262	384,957	369,558	351,940	340,227	324,570	312,582	300,187	288,150	276,113
Base Participant CP Demand (kW)	4,486	6,354	11,621	16,757	16,873	15,954	14,845	13,970	13,011	12,071	11,169	10,265	9,361	8,457	7,553	6,649	5,745	4,841	3,937
Coincident Peak Demand Reduction (kW)	397	1,461	3,617	4,440	4,480	4,236	3,968	3,710	3,455	3,205	2,954	2,703	2,452	2,201	1,950	1,699	1,448	1,197	946
Coincident Peak Demand Reduction@ Gen (kW)	417	1,765	3,801	4,626	4,708	4,452	4,170	3,888	3,615	3,348	3,081	2,814	2,547	2,280	2,013	1,746	1,479	1,212	945
(\$/kW-yr.)																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$7,404,750	\$96,968	\$234,943	\$654,963	\$823,984	\$847,379	\$616,008	\$781,194	\$745,230	\$708,125	\$672,689	\$640,807	\$607,137	\$576,494	\$542,437	\$512,787	\$478,983	\$436,439	\$395,025
COSTS																			
Non-Participant Incentives (Includes replacement of units at end of useful life)	250	804	1265	564	50	-131	-149	-149	-149	-149	-149	-149	-149	-149	-149	-149	-149	-149	-149
Equipment that will be directly installed and owned by utility OR PA																			
Utility/PA Per Unit Equipment Cost	\$300	\$71	\$73	\$74	\$76	\$77	\$79	\$80	\$82	\$84	\$85	\$87	\$89	\$91	\$92	\$94	\$96	\$98	\$98
Utility/PA Per Unit Labor Cost	\$200	\$296	\$308	\$313	\$316	\$321	\$325	\$329	\$334	\$339	\$344	\$349	\$354	\$359	\$364	\$369	\$374	\$379	\$384
Total Utility/PA Installed Equipment Cost Per Unit	\$270	\$277	\$281	\$287	\$292	\$298	\$304	\$310	\$316	\$322	\$329	\$336	\$342	\$349	\$356	\$363	\$371	\$378	\$384
Variable Utility/PA Installed Equipment Cost	\$1,042,437	\$67,484	\$221,324	\$355,246	\$381,489	\$34,611	\$18,787	\$45,154	\$46,112	\$47,083	\$48,070	\$49,073	\$50,093	\$51,129	\$52,181	\$53,249	\$54,333	\$55,433	\$56,549
Amortized Utility/PA Installed Equipment Cost	\$1,102,898	\$9,842	\$38,864	\$86,474	\$108,410	\$116,377	\$105,130	\$99,653	\$90,847	\$84,041	\$78,282	\$73,584	\$69,849	\$66,076	\$62,265	\$58,416	\$54,529	\$50,604	\$46,640
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (Participant-Pr.)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Participant Incentive Costs	\$1,406,472	\$14,997	\$48,215	\$139,093	\$172,906	\$175,906	\$168,068	\$159,148	\$150,228	\$141,298	\$132,359	\$123,420	\$114,481	\$105,542	\$96,603	\$87,664	\$78,725	\$69,786	\$60,847
Implementation, Admin, Marketing	\$102,325	\$91,810	\$117,627	\$82,779	\$56,641	\$55,014	\$56,114	\$57,236	\$58,381	\$59,548	\$60,737	\$61,947	\$63,167	\$64,397	\$65,637	\$66,887	\$68,147	\$69,407	\$70,667
Fixed Program Costs	\$846,830	\$102,325	\$91,810	\$117,627	\$82,779	\$56,641	\$55,014	\$56,114	\$57,236	\$58,381	\$59,548	\$60,737	\$61,947	\$63,167	\$64,397	\$65,637	\$66,887	\$68,147	\$69,407
Central Controller Software Costs	\$2,500	\$2,500	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,107	\$3,167	\$3,227	\$3,287	\$3,347	\$3,407	\$3,467	\$3,527
Central Controller Hardware Costs	\$12,500	\$12,500	\$12,601	\$12,653	\$12,706	\$12,760	\$12,815	\$12,872	\$12,929	\$12,988	\$13,047	\$13,107	\$13,167	\$13,227	\$13,287	\$13,347	\$13,407	\$13,467	\$13,527
Central Controller Costs	\$15,000	\$15,000	\$15,201	\$15,353	\$15,461	\$15,526	\$15,597	\$15,674	\$15,753	\$15,833	\$15,914	\$16,000	\$16,091	\$16,187	\$16,283	\$16,380	\$16,477	\$16,574	\$16,671
TOTAL PROGRAM COSTS - UCT (No Amortization)	\$1,406,472	\$149,896	\$378,900	\$614,567	\$619,807	\$589,863	\$536,845	\$479,924	\$424,224	\$370,524	\$318,825	\$269,126	\$221,427	\$175,728	\$132,029	\$90,330	\$50,631	\$12,932	\$-13,767
TOTAL PROGRAM COSTS - UCT (Amortized Installed Equipment Costs)	\$1,406,472	\$149,896	\$378,900	\$614,567	\$619,807	\$589,863	\$536,845	\$479,924	\$424,224	\$370,524	\$318,825	\$269,126	\$221,427	\$175,728	\$132,029	\$90,330	\$50,631	\$12,932	\$-13,767
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$1,406,472	\$149,896	\$378,900	\$614,567	\$619,807	\$589,863	\$536,845	\$479,924	\$424,224	\$370,524	\$318,825	\$269,126	\$221,427	\$175,728	\$132,029	\$90,330	\$50,631	\$12,932	\$-13,767
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Costs)	\$1,406,472	\$149,896	\$378,900	\$614,567	\$619,807	\$589,863	\$536,845	\$479,924	\$424,224	\$370,524	\$318,825	\$269,126	\$221,427	\$175,728	\$132,029	\$90,330	\$50,631	\$12,932	\$-13,767
UTILITY COST TEST																			
Total Benefits	\$7,404,750	\$96,968	\$234,943	\$654,963	\$823,984	\$847,379	\$616,008	\$781,194	\$745,230	\$708,125	\$672,689	\$640,807	\$607,137	\$576,494	\$542,437	\$512,787	\$478,983	\$436,439	\$395,025
Total Costs	\$1,406,472	\$149,896	\$378,900	\$614,567	\$619,807	\$589,863	\$536,845	\$479,924	\$424,224	\$370,524	\$318,825	\$269,126	\$221,427	\$175,728	\$132,029	\$90,330	\$50,631	\$12,932	\$-13,767
UCT Benefits Cost Ratio	5.26																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$7,404,750	\$96,968	\$234,943	\$654,963	\$823,984	\$847,379	\$616,008	\$781,194	\$745,230	\$708,125	\$672,689	\$640,807	\$607,137	\$576,494	\$542,437	\$512,787	\$478,983	\$436,439	\$395,025
Total Costs	\$1,406,472	\$149,896	\$378,900	\$614,567	\$619,807	\$589,863	\$536,845	\$479,924	\$424,224	\$370,524	\$318,825	\$269,126	\$221,427	\$175,728	\$132,029	\$90,330	\$50,631	\$12,932	\$-13,767
TIC Benefits Cost Ratio	5.26																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

INDUSTRIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035		
— User Input																			
PROJECT NAME:	America On Demand Ind-Capacity Bidding																		
DEMAND RESPONSE PROGRAM NAME:																			
Firm Load Reduction? (Select from drop-down menu)	NO																		
New Program? (Select from drop-down menu)	YES																		
Load Shifting Program? (Select from drop-down menu)	NO																		
Number of Control Units Per Participant	1																		
If Existing Program - Total Number of Participants	2018																		
Year of Existing Program - Year																			
Eligible Customers (From the Eligible Customers Tab)	117	223	305	385	472	566	661	755	849	944	945	944	944	944	944	944	944	944	
Coincident Peak (CP) Load Per Eligible Customer (kW)	614.54																		
Coincident Peak Load Efficiency Gain (Near 20)	0%	0.90%	1.80%	2.85%	3.77%	4.67%	5.55%	6.44%	7.27%	8.13%	8.94%	9.73%	10.48%	11.20%	11.89%	12.60%	12.89%	13.04%	13.07%
Participant Incentive (\$/kW-Yr)	\$50.00																		
Program Participation Rate (From Market Adoption Curve Tab)	0.1%	0.3%	0.7%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Annual Number of Control Hours (If load shifting program, enter 0)	80																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)	10.5%																		
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants	0	1	2	4	5	6	7	8	8	9	9	9	9	9	9	9	9	9	9
Base Sector CP Demand (kW)	71,290	134,513	182,212	217,466	276,263	328,564	380,149	430,400	479,151	526,534	523,973	518,151	514,970	511,067	506,972	501,345	504,495	504,368	504,368
Base Participant CP Demand (kW)	50	404	1,276	2,116	2,763	3,286	3,801	4,304	4,795	5,285	5,240	5,191	5,150	5,110	5,070	5,033	5,045	5,044	5,044
Coincident Peak Demand Reduction (kW)	10	79	249	413	539	641	741	839	935	1,031	1,022	1,012	1,004	997	989	985	984	984	984
Coincident Peak Demand Reduction@ Gen (kW)	10	81	262	434	566	673	779	882	983	1,083	1,074	1,064	1,055	1,047	1,039	1,036	1,034	1,034	1,034
(\$/kW-Yr)																			
TOTAL UTILITY AVOIDER COSTS (BENEFITS)	\$1,427,853	\$815	\$10,642	\$39,461	\$67,468	\$98,578	\$108,481	\$128,311	\$148,257	\$168,342	\$169,398	\$192,590	\$194,216	\$196,632	\$199,140	\$202,487	\$206,197	\$210,211	\$214,524
COSTS																			
Recently Installed Units (Includes replacement of units at end of useful life)	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$1,482	\$1,491	\$1,521	\$1,552	\$1,583	\$1,614	\$1,647	\$1,680	\$1,713	\$1,748	\$1,782	\$1,818	\$1,854	\$1,892	\$1,929	\$1,968	\$2,007	\$2,048	\$2,048
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit	\$1,482	\$1,491	\$1,521	\$1,552	\$1,583	\$1,614	\$1,647	\$1,680	\$1,713	\$1,748	\$1,782	\$1,818	\$1,854	\$1,892	\$1,929	\$1,968	\$2,007	\$2,048	\$2,048
Variable Utility/PA Installed Equipment Cost	\$11,812	\$120	\$875	\$2,214	\$2,210	\$1,801	\$1,328	\$1,368	\$1,381	\$1,413	\$1,461	\$1	\$1	\$1	\$2	\$2	\$1	\$1	\$1
Amortized Utility/PA Installed Equipment Cost	\$12,996	\$50	\$86	\$2,777	\$465	\$663	\$754	\$888	\$1,024	\$1,362	\$1,365	\$1,365	\$1,365	\$1,365	\$1,365	\$1,365	\$1,365	\$1,365	\$1,365
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (\$/kW-Yr)	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50
Incentives (\$/kW)	\$25	\$190	\$628	\$1,041	\$1,359	\$1,616	\$1,870	\$2,117	\$2,358	\$2,599	\$2,577	\$2,553	\$2,513	\$2,493	\$2,481	\$2,485	\$2,481	\$2,481	\$2,481
Total Non-Equipment Program Incentive Costs	\$420,796	\$36,600	\$4,814,319	\$18,703,119	\$22,737,888	\$29,464,315	\$35,280,119	\$40,819,227	\$46,215,112	\$51,489,965	\$56,792,441	\$56,262,642	\$55,741,141	\$55,295,911	\$54,874,744	\$54,437,619	\$54,262,444	\$54,171,115	\$54,157,510
Implementation, Admin, Marketing	\$132,535	\$11,447	\$34,571	\$16,247	\$16,788	\$16,398	\$16,398	\$17,129	\$17,866	\$18,623	\$19,401	\$19,650	\$40,402	\$41,211	\$42,015	\$42,876	\$43,733	\$44,608	\$45,500
Fixed Program Costs	\$540,133	\$132,535	\$13,441	\$34,571	\$16,247	\$16,788	\$16,398	\$17,129	\$17,866	\$18,623	\$19,401	\$19,650	\$40,402	\$41,211	\$42,015	\$42,876	\$43,733	\$44,608	\$45,500
Control/Controller Software Costs	\$2,301	\$2,500	\$2,601	\$2,615	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501	\$3,561
Control/Controller Hardware Cost	\$12,500																		
Control/Controller Costs	\$55,185	\$15,000	\$2,500	\$2,601	\$2,615	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501
TOTAL UTILITY COSTS (No Amortization)	\$1,205,947	\$448,232	\$41,209	\$18,209	\$62,883	\$98,960	\$129,864	\$162,219	\$196,134	\$240,685	\$280,803	\$311,421	\$339,264	\$369,878	\$400,146	\$430,613	\$460,382	\$490,213	\$520,199
TOTAL UTILITY COSTS (Including Amortized Variable Equipment Costs)	\$1,026,621	\$148,692	\$40,413	\$11,152	\$61,087	\$98,782	\$129,192	\$161,632	\$197,977	\$244,205	\$286,446	\$317,725	\$346,559	\$376,982	\$407,149	\$437,117	\$466,866	\$496,516	\$526,164
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$605,151	\$447,655	\$38,868	\$39,406	\$40,155	\$40,295	\$40,684	\$41,210	\$41,810	\$42,483	\$43,201	\$43,954	\$44,741	\$45,561	\$46,421	\$47,319	\$48,264	\$49,246	\$50,266
TOTAL PROGRAM COSTS - TIC (Including Amortized Equipment Cost)	\$606,007	\$447,655	\$38,868	\$39,406	\$40,155	\$40,295	\$40,684	\$41,210	\$41,810	\$42,483	\$43,201	\$43,954	\$44,741	\$45,561	\$46,421	\$47,319	\$48,264	\$49,246	\$50,266
UTILITY COST TEST																			
Total Benefits	\$1,427,853																		
Total Costs	\$1,025,947																		
UTC Benefit Cost Ratio	1.39																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$1,427,853																		
Total Costs	\$609,151																		
TIC Benefit Cost Ratio	2.34																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

INDUSTRIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

- User Input		2018																	
PROJECT NAME: DEMAND RESPONSE PROGRAM NAME:		Ameren DR Industrial Ind CPP with Enabling Tech																	
Firm Load Reduction? (Select from drop-down menu)		NO																	
New Program? (Select from drop-down menu)		YES																	
Load Shifting Program? (Select from drop-down menu)		YES																	
Number of Control Units Per Participant		1,654																	
If Existing Program - Total Number of Participants		2018																	
If Existing Program - Year		Year End																	
Item	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers Tab)	82	83	243	322	400	478	558	637	716	796	796	795	795	794	794	794	794	794	
Coincident Peak (CP) Load Per Eligible Customer (kW)	106.35																		
Coincident Peak Load Efficiency Gain (Near 20)	0%	0.90%	1.80%	2.85%	3.77%	4.67%	5.55%	6.44%	7.27%	8.13%	8.94%	9.73%	10.48%	11.20%	11.89%	12.60%	12.89%	13.04%	
Participant Incentive (\$/kW-yr)																			
Program Participation Rate (From Market Adoption Curve Tab)	1.4%	6.0%	14.0%	18.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
Annual Number of Control Hours (If load shifting program, enter 0)	60																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)	21.5%																		
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants	1	10	34	60	80	96	112	127	143	159	159	159	159	159	159	159	159	159	
Base Sector CP Demand (kW)	8,542	17,023	25,508	32,993	40,478	47,963	55,448	62,933	70,418	77,903	77,888	77,873	77,858	77,843	77,828	77,813	77,798	77,783	
Base Participant CP Demand (kW)	121	1,021	3,115	6,129	8,111	9,693	11,105	12,564	13,991	15,418	15,284	15,137	15,015	14,899	14,780	14,711	14,686	14,681	
Coincident Peak Demand Reduction (kW)	26	209	705	1,336	1,741	2,062	2,384	2,697	3,004	3,310	3,281	3,220	3,224	3,199	3,169	3,158	3,153	3,152	
Coincident Peak Demand Reduction@ Gain (kW)	27	230	793	1,383	1,830	2,157	2,505	2,835	3,157	3,479	3,448	3,415	3,388	3,362	3,330	3,319	3,313	3,312	
(\$/kW-yr)	1,717																		
TOTAL UTILITY AVOIDER COSTS (BENEFITS)	\$4,429,879	\$2,021	\$29,013	\$117,480	\$208,838	\$285,254	\$340,487	\$401,542	\$463,420	\$526,360	\$591,652	\$658,245	\$694,361	\$611,470	\$618,882	\$625,373	\$635,765	\$647,335	\$660,000
COSTS																			
Recently Installed Units (Includes replacement of units at end of useful life)	2	14	40	43	33	26	26	26	26	26	26	2	14	40	43	33	26	26	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$636	\$629	\$641	\$654	\$667	\$681	\$694	\$708	\$722	\$737	\$751	\$766	\$782	\$797	\$813	\$830	\$846	\$863	
Utility/PA Per Unit Labor Cost	\$260	\$275	\$300	\$325	\$351	\$376	\$402	\$427	\$453	\$479	\$505	\$531	\$557	\$583	\$610	\$636	\$663	\$690	
Total Utility/PA Installed Equipment Cost Per Unit	\$896	\$904	\$941	\$979	\$1,016	\$1,057	\$1,097	\$1,131	\$1,175	\$1,212	\$1,256	\$1,297	\$1,333	\$1,380	\$1,421	\$1,440	\$1,469	\$1,513	
Variable Utility/PA Installed Equipment Cost	\$101,001	\$1,645	\$12,638	\$36,142	\$59,346	\$11,932	\$28,683	\$29,822	\$26,010	\$26,330	\$27,403	\$22,000	\$15,381	\$44,056	\$47,961	\$39,203	\$30,080	\$11,477	
Amortized Utility/PA Installed Equipment Cost	\$19,412	\$211	\$1,500	\$6,784	\$12,079	\$16,277	\$19,999	\$23,074	\$26,576	\$28,145	\$29,411	\$22,000	\$15,381	\$44,056	\$47,961	\$39,203	\$30,080	\$11,477	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation, Admin, Marketing	\$82,551	\$31,984	\$35,068	\$35,856	\$36,261	\$36,737	\$37,494	\$37,494	\$38,233	\$38,998	\$39,789	\$39,630	\$40,402	\$41,210	\$42,034	\$42,875	\$43,731	\$44,607	
OBM	\$50	\$432	\$1,533	\$2,713	\$3,751	\$4,573	\$5,445	\$6,340	\$7,269	\$8,242	\$9,260	\$10,320	\$11,423	\$12,569	\$13,758	\$14,991	\$16,269	\$17,594	
Fixed Program Costs	\$555,131	\$42,651	\$34,018	\$36,601	\$38,609	\$40,021	\$41,330	\$42,599	\$43,831	\$45,026	\$46,182	\$47,297	\$48,373	\$49,410	\$50,410	\$51,375	\$52,306	\$53,203	
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortization)	\$87,093	\$84,234	\$46,634	\$72,743	\$77,951	\$71,204	\$66,893	\$68,761	\$70,982	\$73,796	\$75,433	\$76,033	\$66,348	\$94,003	\$96,908	\$89,375	\$83,080	\$81,539	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$87,548	\$82,823	\$35,930	\$43,385	\$50,688	\$56,289	\$60,909	\$64,613	\$67,147	\$69,411	\$71,465	\$73,220	\$63,665	\$91,320	\$94,235	\$86,702	\$80,407	\$78,966	
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$887,093	\$884,234	\$466,634	\$727,743	\$779,951	\$712,204	\$668,893	\$687,761	\$709,982	\$737,996	\$75,433	\$76,033	\$66,348	\$94,003	\$96,908	\$89,375	\$83,080	\$81,539	
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$887,548	\$882,823	\$466,634	\$727,743	\$779,951	\$712,204	\$668,893	\$687,761	\$709,982	\$737,996	\$75,433	\$76,033	\$66,348	\$94,003	\$96,908	\$89,375	\$83,080	\$81,539	
UTILITY COST TEST																			
Total Benefits	\$4,429,879																		
Total Costs	\$87,093																		
UTC Benefit Cost Ratio	51.7																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$4,429,879																		
Total Costs	\$87,093																		
UTC Benefit Cost Ratio	51.7																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

INDUSTRIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

User Input																			
PROJECT NAME: Ameren DR Industrial																			
DEMAND RESPONSE PROGRAM NAME: Ind Critical Peak Pricing w/o Enabling Tech																			
Firm Load Reduction? (Select from drop-down menu)																			
New Program? (Select from drop-down menu)																			
Load Shifting Program? (Select from drop-down menu)																			
Number of Control Units Per Participant																			
If Existing Program - Total Number of Participants																			
Start of Existing Program - Year																			
		Year End																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Eligible Customers (From the Eligible Customers Tab)	Comments on the	409	805	1,182	1,553	1,926	2,301	2,683	3,066	3,448	3,830	4,212	4,594	4,976	5,358	5,740	6,122	6,504	6,886
Coincident Peak (CP) Load Per Eligible Customer (kW)		106.35																	
Coincident Peak Load Efficiency Gain (Per Hr %)		0%	0.90%	1.80%	2.85%	3.77%	4.67%	5.55%	6.44%	7.27%	8.13%	8.94%	9.73%	10.48%	11.20%	11.89%	12.60%	12.89%	13.04%
Participant Incentive (\$/kW-Yr.)																			
Program Participation Rate - Max Achievable (From Market Adoption Curve Tab)	Calculate on basis of Participation Rate	1.3%	5.4%	12.0%	16.7%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%
Annual Number of Control Hours (If load shifting program, enter 0)		60																	
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)		11.3%																	
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants		5	43	149	260	347	414	483	552	621	689	758	827	896	965	1,034	1,103	1,172	1,241
Base Sector CP Demand (kW)		43,091	84,093	122,136	158,842	193,270	231,166	267,250	302,325	336,848	370,895	404,379	437,342	469,785	501,708	533,111	564,004	594,487	624,560
Base Participant CP Demand (kW)		543	4,541	15,388	26,607	35,149	41,610	48,042	54,418	60,833	66,761	72,164	77,102	81,565	85,553	89,066	92,104	94,667	96,755
Coincident Peak Demand Reduction (kW)		61	513	1,739	3,007	3,972	4,702	5,431	6,149	6,855	7,544	8,217	8,874	9,516	10,143	10,756	11,356	11,943	12,517
Coincident Peak Demand Reduction@ Gen (kW)		64	539	1,827	3,159	4,174	4,941	5,707	6,462	7,200	7,928	8,647	9,347	10,028	10,691	11,336	11,972	12,599	13,217
REVENUES																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$10,101,556	\$4,462	\$47,890	\$276,565	\$477,385	\$643,986	\$776,408	\$914,730	\$1,054,428	\$1,206,006	\$1,368,399	\$1,541,049	\$1,724,087	\$1,918,592	\$2,124,092	\$2,340,378	\$2,567,332	\$2,804,856
COSTS																			
newly installed units (includes replacement of units at end of useful life)	NPV	5	38	105	111	87	68	69	69	69	69	69	0	0	0	0	0	0	0
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utility/PA Per Unit Labor Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Variable Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortized Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (\$/kW-Yr.)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implementation, Admin, Marketing		\$95,494	\$35,099	\$39,292	\$40,376	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$43,800	\$44,682	\$45,589	\$46,521	\$47,478	\$48,460	\$49,467	\$50,499
Fixed Program Costs		\$528,102	\$95,494	\$35,099	\$39,292	\$40,376	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$43,800	\$44,682	\$45,589	\$46,521	\$47,478	\$48,460	\$49,467
Central Controller Software Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Hardware Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL UTILITY COSTS (No Amortisation)		\$528,102	\$95,494	\$35,099	\$39,292	\$40,376	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$43,800	\$44,682	\$45,589	\$46,521	\$47,478	\$48,460	\$49,467
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$528,102	\$95,494	\$35,099	\$39,292	\$40,376	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$43,800	\$44,682	\$45,589	\$46,521	\$47,478	\$48,460	\$49,467
TOTAL PROGRAM COSTS - TIC (No Amortisation)		\$528,102	\$95,494	\$35,099	\$39,292	\$40,376	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$43,800	\$44,682	\$45,589	\$46,521	\$47,478	\$48,460	\$49,467
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)		\$528,102	\$95,494	\$35,099	\$39,292	\$40,376	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$43,800	\$44,682	\$45,589	\$46,521	\$47,478	\$48,460	\$49,467
UTILITY COST TEST																			
Total Benefits		\$10,101,556																	
Total Costs		\$528,102																	
TIC Benefits Cost Ratio		19.13																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$10,101,556																	
Total Costs		\$528,102																	
TIC Benefits Cost Ratio		19.13																	

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

INDUSTRIAL - DEMAND RESPONSE - PRAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

User Input																			
PROJECT NAME: DEMAND RESPONSE PROGRAM NAME:		Ameren DR Industrial Intermittent/peaks																	
Firm Load Reduction? (Select from drop-down menu)		NO																	
New Program? (Select from drop-down menu)		NO																	
Load Shifting Program? (Select from drop-down menu)		NO																	
Number of Control Units Per Participant		1																	
If Existing Program - Total Number of Participants		2018																	
If Existing Program - Year		Year End																	
Item	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers Tab)	100	178	163	141	148	180	210	241	271	301	302	301	301	302	302	302	303	303	
Coincident Peak (CP) Load Per Eligible Customer (kW)	351.54																		
Coincident Peak Load Efficiency Gain (Per 20)	0%	0.90%	1.80%	2.85%	3.77%	4.67%	5.55%	6.44%	7.27%	8.13%	8.94%	9.73%	10.48%	11.20%	11.89%	12.60%	12.89%	13.04%	
Participant Incentive (\$/kW-Yr.)	\$8.50																		
Program Participation Rate (From Market Adoption Curve Tab)	0.2%	0.8%	1.9%	2.5%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	
Annual Number of Control Hours (If load shifting program, enter 0)	80																		
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																		
Program Savings Factor (Percent of CP Load)																			
Per Participant CP Reduction (kW)	41.3																		
LOAD REDUCTION																			
Number of Program Participants	0	1	3	4	4	5	6	6	7	8	8	8	8	8	8	8	8	8	
Base Sector CP Demand (kW)	38,228	61,377	55,688	47,757	43,707	39,814	36,199	32,895	29,982	27,496	25,366	23,540	22,088	20,974	19,964	19,044	18,212	17,468	
Base Participant CP Demand (kW)	72	493	1,045	1,180	1,332	1,603	1,855	2,104	2,347	2,586	2,825	3,064	3,303	3,542	3,781	4,020	4,259	4,498	
Coincident Peak Demand Reduction (kW)	8	58	123	140	157	188	218	247	276	304	332	359	387	414	441	468	495	521	
Coincident Peak Demand Reduction@ Gen (kW)	9	61	129	147	164	196	229	260	290	319	347	374	401	428	455	482	509	535	
(\$/kW-Yr.)	77.7																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$435,171	\$705	\$7,850	\$19,551	\$22,754	\$26,024	\$31,887	\$37,712	\$43,657	\$49,703	\$55,850	\$62,094	\$68,434	\$74,867	\$81,393	\$88,011	\$94,721	\$101,524	
COSTS																			
Recently Installed Units (Includes replacement of units at end of useful life)	0	1	2	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Installed Equipment Cost Per Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Variable Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Amortized Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Non-Equipment Participant Incentives (S/Wth-Yr.)	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	
Total Non-Equipment Participant Incentive Costs	\$98,776	\$184,06	\$2,486.12	\$5,159.07	\$5,875.62	\$6,738.57	\$7,916.15	\$9,158.31	\$10,388.50	\$11,581.18	\$12,730.95	\$13,867.62	\$14,982.38	\$16,086.91	\$17,181.01	\$18,264.88	\$19,339.00	\$20,403.00	
Implementation, Admin, Marketing	\$57,597	\$33,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,050	\$37,793	\$38,549	\$39,318	\$39,613	\$40,402	\$41,213	\$42,041	\$42,881	\$43,739	\$44,611	\$45,503	
Fixed Program Costs	\$464,815	\$57,597	\$33,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,050	\$37,793	\$38,549	\$39,318	\$39,613	\$40,402	\$41,213	\$42,041	\$42,881	\$43,739	\$44,611	
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortization)	\$563,591	\$57,851	\$36,204	\$39,814	\$40,602	\$41,999	\$44,263	\$46,208	\$48,182	\$50,140	\$52,089	\$54,021	\$55,944	\$57,862	\$59,784	\$61,701	\$63,611	\$65,524	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$563,591	\$57,851	\$36,204	\$39,814	\$40,602	\$41,999	\$44,263	\$46,208	\$48,182	\$50,140	\$52,089	\$54,021	\$55,944	\$57,862	\$59,784	\$61,701	\$63,611	\$65,524	
TOTAL PROGRAM COSTS - (No Amortization)	\$464,815	\$57,597	\$33,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,050	\$37,793	\$38,549	\$39,318	\$39,613	\$40,402	\$41,213	\$42,041	\$42,881	\$43,739	\$44,611	
TOTAL PROGRAM COSTS - (No Amortized Installed Equipment Cost)	\$464,815	\$57,597	\$33,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,050	\$37,793	\$38,549	\$39,318	\$39,613	\$40,402	\$41,213	\$42,041	\$42,881	\$43,739	\$44,611	
UTILITY COST TEST																			
Total Benefits	\$435,171																		
Total Costs	\$563,591																		
UTC Benefits Cost Ratio	0.77																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$435,171																		
Total Costs	\$464,815																		
UTC Benefits Cost Ratio	0.94																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

RESIDENTIAL - DEMAND RESPONSE - PMAP (Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

		= User Input																			
PROJECT NAME:		Residential D.C. Cost-of-AC																			
DEMAND RESPONSE PROGRAM NAME:		Residential D.C. Cost-of-AC																			
Firm Load Reduction? (Select from drop-down menu)		YES																			
New Program? (Select from drop-down menu)		NO																			
Load Shifting Program? (Select from drop-down menu)		NO																			
Number of Control Units Per Participant		1																			
If Existing Program - Total Number of Participants		1																			
Age of Existing Program - Years		2018																			
		Year End																			
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036		
Eligible Customers (From the Eligible Customer Tab)		1,854,618	1,755,585	1,661,187	1,577,811	1,485,503	1,391,106	1,294,253	1,198,380	1,101,888	1,008,378	918,385	830,391	748,897	673,404	602,511	535,818	473,025	413,832	357,039	
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.62																			
Coincident Peak Load Efficiency Gain (Year 20)		0%	0.48%	1.30%	2.44%	3.55%	4.66%	5.77%	6.70%	7.57%	8.39%	9.08%	9.69%	10.24%	10.74%	11.20%	11.62%	12.00%	12.34%	12.64%	
Participant Incentive (\$/Participant-Yr.)		\$27																			
Program Participation Rate (From Market Adoption Curve Tab)		2.2%	9.3%	21.7%	28.8%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	
Annual Number of Control Hours		80																			
Type of Savings Factor (Select from drop-down menu)		Per Participant CP Reduction (kW)																			
Program Savings Factor (Percent of CP Load)		1.06																			
Per Participant CP Reduction (kW)		1.06																			
LOAD REDUCTION																					
Number of Program Participants		18,545	17,269	16,453	15,637	14,821	14,005	13,189	12,373	11,557	10,741	9,925	9,109	8,293	7,477	6,661	5,845	5,029	4,213	3,397	
Base Factor CP Demand (kW)		1,058,548	2,489,293	2,948,827	3,203,732	3,470,852	3,737,972	4,005,092	4,272,212	4,539,332	4,806,452	5,073,572	5,340,692	5,607,812	5,874,932	6,142,052	6,409,172	6,676,292	6,943,412	7,210,532	
Base Participant CP Demand (kW)		66,587	201,104	508,827	879,700	1,250,573	1,621,446	1,992,319	2,363,192	2,734,065	3,104,938	3,475,811	3,846,684	4,217,557	4,588,430	4,959,303	5,330,176	5,701,049	6,071,922	6,442,795	
Coincident Peak Demand Reduction (kW)		19,345	73,430	149,950	226,470	302,990	379,510	456,030	532,550	609,070	685,590	762,110	838,630	915,150	991,670	1,068,190	1,144,710	1,221,230	1,297,750	1,374,270	
Coincident Peak Demand Reduction @ Gain (kW)		20,730	77,864	154,412	230,960	307,508	384,056	460,604	537,152	613,700	690,248	766,796	843,344	919,892	996,440	1,072,988	1,149,536	1,226,084	1,302,632	1,379,180	
TOTAL UTILITY AVOIDED COSTS (DOLLARS)		\$131,246,790	\$1,839,758	\$11,976,541	\$27,296,674	\$43,804,300	\$60,311,926	\$76,819,552	\$93,327,178	\$109,834,804	\$126,342,430	\$142,850,056	\$159,357,682	\$175,865,308	\$192,372,934	\$208,880,560	\$225,388,186	\$241,895,812	\$258,403,438	\$274,911,064	\$291,418,690
COSTS																					
Newly Installed Units (Includes replacement of units at end of useful life)		18545	17269	16453	15637	14821	14005	13189	12373	11557	10741	9925	9109	8293	7477	6661	5845	5029	4213	3397	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																					
Utility/PA Per Unit Equipment Cost		\$30	\$71	\$71	\$74	\$76	\$77	\$79	\$80	\$82	\$84	\$85	\$87	\$89	\$91	\$92	\$94	\$96	\$98	\$98	
Utility/PA Per Unit Labor Cost		\$200	\$204	\$208	\$212	\$216	\$221	\$225	\$230	\$234	\$239	\$244	\$249	\$254	\$259	\$264	\$269	\$274	\$279	\$280	
Total Utility/PA Installed Equipment Cost Per Unit		\$270	\$275	\$281	\$287	\$292	\$298	\$304	\$310	\$316	\$323	\$329	\$335	\$341	\$347	\$353	\$359	\$365	\$371	\$372	
Variable Utility/PA Installed Equipment Cost		\$1,057,205	\$1,244,848	\$1,432,491	\$1,620,134	\$1,807,777	\$1,995,420	\$2,183,063	\$2,370,706	\$2,558,349	\$2,745,992	\$2,933,635	\$3,121,278	\$3,308,921	\$3,496,564	\$3,684,207	\$3,871,850	\$4,059,493	\$4,247,136	\$4,434,779	
Amortized Utility/PA Installed Equipment Cost		\$719,052,524	\$679,887	\$1,291,008	\$1,902,129	\$2,513,250	\$3,124,371	\$3,735,492	\$4,346,613	\$4,957,734	\$5,568,855	\$6,179,976	\$6,791,097	\$7,402,218	\$8,013,339	\$8,624,460	\$9,235,581	\$9,846,702	\$10,457,823	\$11,068,944	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																					
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentive (\$/Participant Yr.)		\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	
Total Non-Equipment Program Incentive Costs		\$19,131,713	\$506,840.46	\$1,920,463.13	\$3,939,896.47	\$4,552,711.10	\$4,114,974.79	\$3,365,091.84	\$2,499,996.04	\$1,634,901.23	\$883,227.54	\$463,611.11	\$243,025.05	\$128,411.11	\$68,765.37	\$36,823.97	\$19,872.22	\$10,622.85	\$5,822.85	\$3,172.89	
Program Development		\$80,000																			
Consulting		\$64,763	\$66,058	\$67,353	\$68,648	\$70,000	\$71,304	\$72,608	\$73,912	\$75,216	\$76,520	\$77,824	\$79,128	\$80,432	\$81,736	\$83,040	\$84,344	\$85,648	\$86,952	\$88,256	
Marketing		\$15,237	\$16,942	\$18,647	\$20,352	\$22,057	\$23,762	\$25,467	\$27,172	\$28,877	\$30,582	\$32,287	\$33,992	\$35,697	\$37,402	\$39,107	\$40,812	\$42,517	\$44,222	\$45,927	
Evaluation		\$10,000	\$11,000	\$12,000	\$13,000	\$14,000	\$15,000	\$16,000	\$17,000	\$18,000	\$19,000	\$20,000	\$21,000	\$22,000	\$23,000	\$24,000	\$25,000	\$26,000	\$27,000	\$28,000	
Phase Program Costs		\$94,800	\$112,002	\$139,000	\$161,000	\$178,000	\$195,000	\$212,000	\$229,000	\$246,000	\$263,000	\$280,000	\$297,000	\$314,000	\$331,000	\$348,000	\$365,000	\$382,000	\$399,000	\$416,000	
Central Controller Software Costs		\$25,000	\$5,100	\$5,202	\$5,304	\$5,406	\$5,508	\$5,610	\$5,712	\$5,814	\$5,916	\$6,018	\$6,120	\$6,222	\$6,324	\$6,426	\$6,528	\$6,630	\$6,732	\$6,834	
Central Controller Hardware Costs		\$106,370	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	
TOTAL UTILITY COSTS (No Amortization)		\$100,665,990	\$4,666,069	\$18,829,404	\$38,809,787	\$58,790,170	\$78,770,553	\$98,750,936	\$118,731,319	\$138,711,702	\$158,692,085	\$178,672,468	\$198,652,851	\$218,633,234	\$238,613,617	\$258,594,000	\$278,574,383	\$298,554,766	\$318,535,149	\$338,515,532	\$358,495,915
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$106,776,986	\$4,832,761	\$21,271,564	\$41,251,947	\$61,232,330	\$81,212,713	\$101,193,096	\$121,173,479	\$141,153,862	\$161,134,245	\$181,114,628	\$201,095,011	\$221,075,394	\$241,055,777	\$261,036,160	\$281,016,543	\$301,000,000	\$321,000,000	\$341,000,000	\$361,000,000
TOTAL PROGRAM COSTS - THE (No Amortization)		\$81,473,877	\$6,139,229	\$17,804,941	\$34,838,890	\$51,872,839	\$68,906,788	\$85,940,737	\$102,974,686	\$119,008,635	\$135,042,584	\$151,076,533	\$167,110,482	\$183,144,431	\$199,178,380	\$215,212,329	\$231,246,278	\$247,280,227	\$263,314,176	\$279,348,125	\$295,382,074
TOTAL PROGRAM COSTS - THE (Amortized Installed Equipment Cost)		\$85,642,272	\$1,839,758	\$11,976,541	\$27,296,674	\$43,804,300	\$60,311,926	\$76,819,552	\$93,327,178	\$109,834,804	\$126,342,430	\$142,850,056	\$159,357,682	\$175,865,308	\$192,372,934	\$208,880,560	\$225,388,186	\$241,895,812	\$258,403,438	\$274,911,064	\$291,418,690
UTILITY COST TEST																					
Total Benefits		\$111,248,473																			
Total Costs		\$100,665,990																			
NET Benefit Cost Ratio		1.10																			
TOTAL RESOURCE COST TEST																					
Total Benefits		\$111,248,473																			
Total Costs		\$81,473,877																			
NET Benefit Cost Ratio		1.36																			

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

RESIDENTIAL - DEMAND RESPONSE - PMAP (Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

		= User Input																	
PROJECT NAME:		Residential DR Potential																	
DEMAND RESPONSE PROGRAM NAME:		Residential D.C. Pool Pumps																	
Firm Load Reduction? (Select from drop-down menu)		YES																	
New Program? (Select from drop-down menu)		YES																	
Load Shifting Program? (Select from drop-down menu)		0																	
Number of Control Units Per Participant		1																	
If Existing Program - Total Number of Participants		0																	
Age of Existing Program - Years		0																	
Item		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Eligible Customers (From the Eligible Customers TAB)		0																	
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.62																	
Coincident Peak Load Efficiency Gain (Year 20)		0%																	
Participant Incentive (\$/Participant-Yr.)		58																	
Program Participation Rate (From Market Adoption Curve TAB)		2.7%																	
Annual Number of Control Hours		80																	
Type of Savings Factor (Select from drop-down menu)		Per Participant CP Reduction (kW)																	
Program Savings Factor (Percent of CP Load)		1.34																	
Per Participant CP Reduction (kW)		1.34																	
LOAD REDUCTION																			
Number of Program Participants		0																	
Base Sector CP Demand (kW)		0																	
Base Participant CP Demand (kW)		0																	
Coincident Peak Demand Reduction (kW)		0																	
Coincident Peak Demand Reduction @ Gen (kW)		0																	
Annual Avoided Generation Capacity Benefit		0																	
Benefits																			
NPV		0																	
Avoided Generation Demand																			
Firm Load Reduction?		YES																	
Coincident Peak Demand Reduction @ Gen (kW)		0																	
Coincident Peak Demand Reduction (kW) - Including Reserve Margin		0																	
Annual Avoided Generation Cost (\$/kW-Yr.) (Nominal \$)		\$52.36	\$50.98	\$32.65	\$125.10	\$127.00	\$130.16	\$132.76	\$135.41	\$138.12	\$140.88	\$143.70	\$146.58	\$149.51	\$152.50	\$155.55	\$158.66	\$161.83	\$165.07
Annual Avoided Generation Capacity Benefit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Avoided Energy Savings																			
Coincident Peak Demand Reduction @ Gen (kW)		0																	
Hours of Control		0																	
Annual Energy Saved (MWh)		0																	
Cost to Serve Energy During Control (\$/MWh) (Nominal \$)		\$18.46	\$17.51	\$14.97	\$48.44	\$52.26	\$49.85	\$55.46	\$57.69	\$59.62	\$70.33	\$73.50	\$70.12	\$72.96	\$75.65	\$89.00	\$94.68	\$99.52	\$103.60
Annual Avoided Energy Benefits		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Generation Energy Shift																			
Coincident Peak Demand Reduction @ Gen (kW)		0																	
Hours of Control		0																	
Annual Energy Shift @ Gen		0																	
Cost to Serve Energy During Control (\$/MWh) (Nominal \$)		\$18.46	\$17.51	\$14.97	\$48.44	\$52.26	\$49.85	\$55.46	\$57.69	\$59.62	\$70.33	\$73.50	\$70.12	\$72.96	\$75.65	\$89.00	\$94.68	\$99.52	\$103.60
Energy Cost Savings per MWh		\$32.54	\$35.61	\$38.85	\$36.43	\$39.11	\$45.48	\$51.23	\$53.92	\$56.63	\$52.60	\$54.93	\$64.00	\$67.11	\$71.79	\$66.36	\$70.76	\$74.34	\$77.70
Annual Generation Energy Shift Benefits		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Benefit per Customer (\$/kW-Yr.)		\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
Total Participant Benefits		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Avoided Transmission & Distribution Demand																			
Annual Available kW Savings		0																	
Avoided Transmission & Distribution (\$/kW-Yr.) (Nominal \$)		\$14.43	\$14.92	\$15.42	\$15.93	\$16.45	\$16.98	\$17.52	\$18.07	\$18.63	\$19.20	\$19.79	\$19.38	\$19.99	\$13.61	\$13.24	\$12.89	\$13.54	\$14.21
Annual Avoided T&D Benefits		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
COSTS																			
NPV		0																	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Newly Installed Units (Includes replacement of units at end of useful life)		0																	
Utility/PA Per Unit Equipment Cost		\$70	\$71	\$73	\$74	\$76	\$77	\$79	\$80	\$82	\$84	\$85	\$87	\$89	\$91	\$92	\$94	\$96	\$98
Utility/PA Per Unit Labor Cost		\$208	\$204	\$208	\$212	\$216	\$221	\$225	\$230	\$234	\$239	\$244	\$249	\$254	\$259	\$264	\$269	\$275	\$280
Total Utility/PA Installed Equipment Cost Per Unit		\$270	\$275	\$281	\$287	\$292	\$298	\$304	\$310	\$316	\$323	\$329	\$336	\$342	\$349	\$356	\$363	\$371	\$378
Variable Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortized Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (\$/Participant-Yr.)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implementation																			
Admin		\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
Marketing		\$64,763	\$66,058	\$67,379	\$68,727	\$70,102	\$71,504	\$72,934	\$74,392	\$75,880	\$77,398	\$78,946	\$80,525	\$82,135	\$83,778	\$85,453	\$87,162	\$88,906	\$90,684
Evaluation		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fixed Program Costs		\$1,621,131	\$1,946,763	\$1,117,058	\$119,399	\$121,787	\$124,223	\$126,708	\$129,242	\$131,827	\$134,463	\$137,152	\$139,895	\$142,693	\$145,547	\$148,458	\$151,427	\$154,456	\$157,545
Central Controller Software Costs		\$5,000	\$5,100	\$5,202	\$5,306	\$5,412	\$5,520	\$5,631	\$5,743	\$5,858	\$5,975	\$6,095	\$6,217	\$6,341	\$6,468	\$6,597	\$6,729	\$6,864	\$7,001
Central Controller Hardware Cost		\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Total Program Costs		\$1,690,763	\$1,956,861	\$1,122,258	\$124,606	\$127,099	\$129,635	\$132,228	\$134,873	\$137,570	\$140,321	\$143,128	\$145,990	\$148,910	\$151,888	\$154,926	\$158,025	\$161,185	\$164,409
TOTAL UTILITY COSTS (No Amortization)		\$1,727,561	\$1,993,719	\$1,158,260	\$127,099	\$129,635	\$132,228	\$134,873	\$137,570	\$140,321	\$143,128	\$145,990	\$148,910	\$151,888	\$154,926	\$158,025	\$161,185	\$164,409	\$167,697
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$1,727,561	\$1,993,719	\$1,158,260	\$127,099	\$129,635	\$132,228	\$134,873	\$137,570	\$140,321	\$143,128	\$145,990	\$148,910	\$151,888	\$154,926	\$158,025	\$161,185	\$164,409	\$167,697
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)		\$1,727,561	\$1,993,719	\$1,158,260	\$127,099	\$129,635	\$132,228	\$134,873	\$137,570	\$140,321	\$143,128	\$145,990	\$148,910	\$151,888	\$154,926	\$158,025	\$161,185	\$164,409	\$167,697
UTILITY COST TEST																			
Total Benefits		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Costs		\$1,727,561	\$1,993,719	\$1,158,260	\$127,099	\$129,635	\$132,228	\$134,873	\$137,570	\$140,321	\$143,128	\$145,990	\$148,910	\$151,888	\$154,926	\$158,025	\$161,185	\$164,409	\$167,697
NET Benefits Cost Ratio		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL RESOURCE COST TEST																			
Total Benefits		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Costs		\$1,727,561	\$1,993,719	\$1,158,260	\$127,099	\$129,635	\$132,228	\$134,873	\$137,570	\$140,321	\$143,128	\$145,990	\$148,910	\$151,888	\$154,926	\$158,025	\$161,185	\$164,409	\$167,697
NET Benefits Cost Ratio		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

RESIDENTIAL - DEMAND RESPONSE - PMAP (Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

- User Input																			
PROJECT NAME:		Amesbury Dr Residential																	
DEMAND RESPONSE PROGRAM NAME:		Res - Plug In Electric Vehicle																	
Firm Load Reduction? (Select from drop-down menu)	NO																		
New Program? (Select from drop-down menu)	YES																		
Load Shift Program? (Select from drop-down menu)	NO																		
Number of Control Units Per Participant	1																		
If Existing Program - Total Number of Participants	2018																		
Age of Existing Program - Year	2018																		
Item	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers List)	3,024	3,630	4,137	5,562	7,303	9,283	11,502	13,961	16,300	19,613	21,315	27,065	30,098	31,994	33,889	35,794	37,680	39,575	
Coincident Peak (CP) Load Per Eligible Customer (kW)	3.65																		
Coincident Peak Load Efficiency Gain (Near 20)	4%																		
Participant Incentive (\$/kW-Yr)	\$0																		
Program Participation Rate (From Market Adoption Curve Tab)	99.0%	98.2%	95.8%	94.4%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	
Annual Number of Control Hours	1407																		
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																		
Program Savings Factor (Percent of CP Load)																			
Per Participant CP Reduction (kW)	0.47																		
LOAD REDUCTION																			
Number of Program Participants	3,002	3,566	4,154	5,251	6,805	8,726	10,812	13,123	15,322	18,436	21,935	25,441	28,282	30,074	31,856	33,637	35,419	37,201	
Base Sector CP Demand (kW)	10,882	13,043	15,151	19,382	25,078	31,080	40,882	49,542	57,722	69,388	82,288	95,240	108,280	112,121	118,500	124,861	131,297	137,502	
Coincident Peak Demand (kW)	10,807	12,811	14,804	18,701	24,513	31,095	38,447	46,570	54,258	65,150	77,351	89,526	99,349	105,384	111,390	117,369	123,325	129,251	
Coincident Peak Demand Reduction (kW)	1,451	1,876	1,952	2,468	3,208	4,101	5,082	6,168	7,201	8,665	10,309	11,957	13,207	14,135	14,972	15,809	16,647	17,484	
Coincident Peak Demand Reduction@ Gen (kW)	1,496	1,777	2,071	2,618	3,422	4,350	5,300	6,442	7,638	9,191	10,935	12,683	14,204	14,993	15,881	16,769	17,657	18,545	
Annual Avoided Generation Capacity Benefits	\$12,747,473	\$17,748	\$22,805	\$29,250	\$37,608	\$48,316	\$61,596	\$76,925	\$94,608	\$115,013	\$138,770	\$166,497	\$188,819	\$206,334	\$219,388	\$230,882	\$241,415	\$251,207	
Annual Energy Savings																			
Coincident Peak Demand Reduction@ Gen (kW)	1,496	1,777	2,071	2,618	3,422	4,350	5,300	6,442	7,638	9,191	10,935	12,683	14,204	14,993	15,881	16,769	17,657	18,545	
Hours of Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Annual Energy Saved (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cost to Save Energy During Control (\$/MWh) (Nominal \$)	\$35.46	\$37.51	\$41.97	\$48.44	\$52.26	\$49.85	\$55.46	\$57.60	\$59.62	\$70.33	\$73.50	\$70.12	\$72.96	\$75.45	\$80.00	\$84.68	\$89.52	\$94.50	
Annual Avoided Energy Benefits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Generation Energy Only																			
Coincident Peak Demand Reduction@ Gen (kW)	1,496	1,777	2,071	2,618	3,422	4,350	5,300	6,442	7,638	9,191	10,935	12,683	14,204	14,993	15,881	16,769	17,657	18,545	
Hours of Control	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	1,407	
Annual Energy Shifted @ Gen	2,139,214	2,600,912	3,008,922	3,817,629	5,131,346	6,509,953	8,005,963	9,769,176	11,848,638	14,373,812	16,946,465	19,976,768	21,105,708	22,436,308	23,766,208	25,096,107	26,426,007	27,755,907	
Cost to Save Energy During Control (\$/MWh) (Nominal \$)	\$35.46	\$37.51	\$41.97	\$48.44	\$52.26	\$49.85	\$55.46	\$57.60	\$59.62	\$70.33	\$73.50	\$70.12	\$72.96	\$75.45	\$80.00	\$84.68	\$89.52	\$94.50	
Cost to Save Energy During Recovery (\$/MWh) (Nominal \$)	\$32.54	\$35.61	\$38.85	\$36.43	\$38.11	\$45.48	\$51.23	\$53.02	\$56.63	\$52.60	\$54.93	\$64.00	\$67.11	\$71.79	\$66.36	\$70.76	\$74.34	\$77.30	
Energy Cost Savings per kWh	\$2.81	\$1.90	\$4.13	\$3.82	\$3.35	\$4.37	\$4.23	\$4.23	\$4.77	\$2.99	\$3.72	\$3.87	\$4.12	\$5.88	\$4.85	\$32.44	\$28.38	\$28.90	
Annual Generation Energy Shift Benefit	\$1,748,423	\$6,500	\$5,907	\$18,981	\$41,200	\$67,371	\$28,449	\$34,146	\$36,109	\$34,177	\$48,749	\$38,877	\$116,183	\$123,663	\$86,474	\$158,047	\$60,541	\$74,811	
Participant Benefit per Customer (\$/kW-Yr)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total Participant Benefits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Avoided Transmission & Distribution Demand																			
Annual Avoidable kW Savings	1,496	1,777	2,071	2,618	3,422	4,350	5,300	6,442	7,638	9,191	10,935	12,683	14,204	14,993	15,881	16,769	17,657	18,545	
Avoided Transmission & Distribution (\$/kW-Yr) (Nominal \$)	\$24.43	\$24.82	\$21.42	\$25.93	\$26.41	\$26.98	\$27.52	\$28.07	\$28.63	\$29.20	\$29.79	\$30.38	\$31.01	\$31.64	\$32.28	\$32.94	\$33.64	\$34.31	
Annual Avoided T&D Benefits	\$2,669,237	\$36,542	\$44,301	\$52,642	\$67,882	\$90,514	\$117,366	\$148,316	\$183,625	\$218,077	\$268,386	\$325,705	\$385,123	\$447,073	\$473,898	\$512,007	\$551,450	\$592,241	
Annual Utility Avoided Costs (Benefits)	\$15,429,270	\$121,448	\$223,787	\$306,612	\$395,381	\$517,202	\$688,540	\$883,872	\$1,089,520	\$1,279,680	\$1,563,221	\$1,897,074	\$2,246,320	\$2,545,743	\$2,760,232	\$2,982,195	\$3,211,332	\$3,440,757	
COSTS																			
Equipment that will be installed and owned by utility OR PA	3002	364	588	1088	1614	2861	2086	2311	2199	3114	3499	3506	2851	1782	1781	1781	1782	1781	
Utility/PA Per Unit Equipment Cost	\$252	\$257	\$262	\$267	\$273	\$278	\$284	\$289	\$295	\$301	\$307	\$313	\$320	\$326	\$333	\$339	\$346	\$353	
Utility/PA Per Unit Labor Cost	\$48	\$49	\$50	\$51	\$52	\$53	\$54	\$55	\$56	\$57	\$58	\$59	\$60	\$61	\$62	\$63	\$64	\$65	
Total Utility/PA Installed Equipment Cost Per Unit	\$300	\$306	\$312	\$318	\$325	\$331	\$338	\$345	\$351	\$358	\$365	\$373	\$380	\$388	\$396	\$404	\$412	\$420	
Variable Utility/PA Installed Equipment Cost	\$8,138,528	\$900,455	\$172,600	\$183,587	\$189,420	\$333,932	\$516,475	\$704,705	\$796,542	\$772,824	\$1,116,034	\$1,279,461	\$1,307,856	\$1,084,935	\$691,605	\$700,115	\$719,219	\$743,990	
Amortized Utility/PA Installed Equipment Cost	\$4,380,486	\$77,236	\$93,041	\$107,788	\$137,759	\$183,706	\$230,376	\$296,024	\$364,147	\$440,035	\$526,405	\$616,150	\$714,911	\$841,173	\$900,760	\$961,181	\$1,022,871	\$1,085,829	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-Yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation Admin	\$365,038	\$104,634	\$108,401	\$146,595	\$186,790	\$208,712	\$229,749	\$251,636	\$247,840	\$325,723	\$361,414	\$371,366	\$323,412	\$237,732	\$242,404	\$247,252	\$252,283	\$257,241	
Marketing Evaluation	\$2,780,822	\$365,039	\$104,634	\$108,401	\$146,595	\$186,790	\$208,712	\$229,749	\$251,636	\$247,840	\$325,723	\$361,414	\$371,366	\$323,412	\$237,732	\$242,404	\$247,252	\$252,283	
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortization)	\$10,919,350	\$1,265,494	\$277,238	\$291,988	\$498,016	\$710,702	\$825,187	\$934,454	\$1,048,158	\$1,020,464	\$1,442,258	\$1,642,935	\$1,679,222	\$1,408,547	\$929,387	\$947,520	\$966,470	\$986,271	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$10,961,707	\$442,275	\$186,674	\$214,188	\$304,654	\$389,400	\$464,290	\$529,773	\$613,963	\$678,475	\$802,127	\$909,624	\$1,118,007	\$1,164,786	\$1,138,481	\$1,205,084	\$1,270,123	\$1,334,111	
TOTAL PROGRAM COSTS - TFC (No Amortization)	\$10,919,350	\$1,265,494	\$277,238	\$291,988	\$498,016	\$710,702	\$825,187	\$934,454	\$1,048,158	\$1,020,464	\$1,442,258	\$1,642,935	\$1,679,222	\$1,408,547	\$929,387	\$947,520	\$966,470	\$986,271	
TOTAL PROGRAM COSTS - TFC (Amortized Installed Equipment Cost)	\$10,961,707	\$442,275	\$186,674	\$214,188	\$304,654	\$389,400	\$464,290	\$529,773	\$613,963	\$678,475	\$802,127	\$909,624	\$1,118,007	\$1,164,786	\$1,138,481	\$1,205,084	\$1,270,123	\$1,334,111	
UTILITY COST TEST																			
Total Benefits	\$15,429,270																		
Total Costs	\$10,919,350		</																

RESIDENTIAL - DEMAND RESPONSE - PMAP (Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

		Year End																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
PROJEC NAME:		Residential Critical Peak Pricing without F																	
DEMAND RESPONSE PROGRAM NAME:		Residential Critical Peak Pricing without F																	
Firm Load Reduction? (Select from drop-down menu)		NO																	
New Program? (Select from drop-down menu)		YES																	
Load Shifting Program? (Select from drop-down menu)		NO																	
Number of Control Units Per Participant		1																	
If Existing Program - Total Number of Participants		1																	
Age of Existing Program - Years		1																	
Item		Year End																	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Eligible Customers (From the Eligible Customer Tab)		51,083	104,603	161,220	222,469	280,234	331,715	393,281	449,974	506,796	561,744	614,382	665,021	713,660	766,299	816,937	870,575	921,213	968,852
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.62																	
Coincident Peak Load Efficiency Gain (Year 20)		0%	1.28%	2.40%	3.17%	4.15%	5.11%	5.89%	6.72%	7.48%	8.21%	8.80%	9.30%	9.79%	10.25%	10.68%	11.14%	11.55%	12.30%
Participant Incentive (\$/kW-Yr.)		50																	
Program Participation Rate (From Market Adoption Curve Tab)		98.8%	94.7%	87.3%	83.2%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%
Annual Number of Control Hours		60																	
Type of Savings Factor (Select from drop-down menu)		Percent of CP Load																	
Program Savings Factor (Percent of CP Load)		13.0%																	
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants		50,448	99,033	142,539	185,189	229,783	276,106	322,490	368,978	415,572	462,270	509,294	556,317	603,341	650,365	697,389	744,413	791,437	838,461
Base (Sector CP Demand (kW))		182,140	362,282	542,424	722,566	902,708	1,082,850	1,262,992	1,443,134	1,623,276	1,803,418	1,983,560	2,163,702	2,343,844	2,523,986	2,704,128	2,884,270	3,064,412	3,244,554
Base Participant CP Demand (kW)		179,479	348,738	497,965	646,405	794,845	943,285	1,091,725	1,240,165	1,388,605	1,537,045	1,685,485	1,833,925	1,982,365	2,130,805	2,279,245	2,427,685	2,576,125	2,724,565
Coincident Peak Demand Reduction (kW)		23,288	45,162	64,487	82,932	102,872	122,401	140,573	159,496	178,229	196,809	215,232	233,505	251,728	269,951	288,174	306,397	324,620	342,843
Coincident Peak Demand Reduction @ Cap (kW)		24,680	47,961	68,399	87,964	108,653	128,767	148,012	167,229	186,252	205,041	223,545	241,828	259,841	277,644	295,297	312,850	330,353	347,856
Benefits																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$276,772,438	\$1,899,635	\$6,090,827	\$10,127,877	\$15,298,300	\$21,445,813	\$28,231,440	\$35,897,464	\$43,656,625	\$51,524,785	\$59,537,919	\$67,687,935	\$75,955,549	\$84,326,511	\$92,798,149	\$101,366,573	\$109,935,966	\$118,507,250
COSTS																			
Newly Installed Units (Includes replacement of units at end of useful life)		50448	48585	43507	42049	44595	46322	48384	46488	46994	46698	524	524	524	524	523	524	524	524
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utility/PA Per Unit Labor Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Variable Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortized Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Equipment Participant Incentives (\$/kW-Yr.)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Implementation		\$100,000																	
Admin		\$23,163	\$23,626	\$24,099	\$24,584	\$25,072	\$25,574	\$26,085	\$26,607	\$27,139	\$27,682	\$28,236	\$28,800	\$29,376	\$29,964	\$30,563	\$31,174	\$31,798	\$32,434
Marketing		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Evaluation		\$50,000	\$51,000	\$52,000	\$53,000	\$54,122	\$55,204	\$56,308	\$57,434	\$58,583	\$59,755	\$60,950	\$62,169	\$63,412	\$64,680	\$65,974	\$67,293	\$68,639	\$70,012
Fixed Program Costs		\$1,082,492	\$1,171,163	\$1,426,626	\$1,611,119	\$1,771,641	\$1,919,194	\$2,054,778	\$2,180,393	\$2,304,041	\$2,425,722	\$2,545,437	\$2,664,185	\$2,781,969	\$2,908,791	\$3,034,651	\$3,160,550	\$3,286,489	\$3,412,468
Central Controller Software Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Hardware Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL UTILITY COSTS (No Amortization)		\$1,082,492	\$1,171,163	\$1,426,626	\$1,611,119	\$1,771,641	\$1,919,194	\$2,054,778	\$2,180,393	\$2,304,041	\$2,425,722	\$2,545,437	\$2,664,185	\$2,781,969	\$2,908,791	\$3,034,651	\$3,160,550	\$3,286,489	\$3,412,468
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$1,082,492	\$1,171,163	\$1,426,626	\$1,611,119	\$1,771,641	\$1,919,194	\$2,054,778	\$2,180,393	\$2,304,041	\$2,425,722	\$2,545,437	\$2,664,185	\$2,781,969	\$2,908,791	\$3,034,651	\$3,160,550	\$3,286,489	\$3,412,468
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$1,082,492	\$1,171,163	\$1,426,626	\$1,611,119	\$1,771,641	\$1,919,194	\$2,054,778	\$2,180,393	\$2,304,041	\$2,425,722	\$2,545,437	\$2,664,185	\$2,781,969	\$2,908,791	\$3,034,651	\$3,160,550	\$3,286,489	\$3,412,468
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)		\$1,082,492	\$1,171,163	\$1,426,626	\$1,611,119	\$1,771,641	\$1,919,194	\$2,054,778	\$2,180,393	\$2,304,041	\$2,425,722	\$2,545,437	\$2,664,185	\$2,781,969	\$2,908,791	\$3,034,651	\$3,160,550	\$3,286,489	\$3,412,468
UTILITY COST TEST																			
Total Benefits		\$276,772,438																	
Total Costs		\$1,082,492																	
TRC Benefit Cost Ratio		255.48																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$276,772,438																	
Total Costs		\$1,082,492																	
TRC Benefit Cost Ratio		255.48																	

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PMAF
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035		
USER INPUT																			
PROJECT NAME:	Ameren DR Potential Com Capacity Bidding																		
DEMAND RESPONSE PROGRAM NAME:																			
Firm Load Reduction? (Select from drop-down menu)	NO																		
New Program? (Select from drop-down menu)	NO																		
Load Shifting Program? (Select from drop-down menu)	NO																		
Number of Control Units Per Participant	1																		
# Existing Program - Total Number of Participants	1																		
# of Existing Program - Year	2018																		
Eligible Customers (From the Eligible Customers Tab)	18	143	545	1,013	1,396	1,696	1,981	2,268	2,553	2,830	2,843	2,845	2,848	2,850	2,854	2,857	2,859	2,862	
Coincident Peak (CP) Load Per Eligible Customer (kW)	221.05																		
Coincident Peak Load Efficiency Gain (Hour %)	0%	2.31%	4.37%	6.08%	7.77%	9.21%	10.48%	11.77%	12.91%	14.06%	15.07%	15.98%	16.78%	17.26%	17.72%	18.25%	18.33%	18.41%	18.47%
Participant Incentive (\$/kW-yr)	550.00																		
Program Participation Rate (From Market Adoption Curve Tab)	0.0%	2.4%	5.0%	7.4%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Annual Number of Control Hours (If load shifting program, enter 0)	80																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)	19.3%																		
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants	0	3	30	75	112	130	159	181	204	227	227	228	228	228	228	229	229	229	229
Base Sector CP Demand (kW)	3,885	30,124	112,949	206,414	281,122	335,554	386,419	435,900	484,918	532,897	571,940	612,137	653,238	694,208	734,028	772,579	809,845	845,816	880,493
Base Participant CP Demand (kW)	22	723	6,311	15,362	22,409	26,852	30,514	34,000	38,793	42,835	42,335	41,867	41,666	41,473	41,255	41,251	41,249	41,246	41,246
Coincident Peak Demand Reduction (kW)	4	141	1,234	2,996	4,370	5,236	6,028	6,800	7,565	8,314	8,236	8,164	8,125	8,087	8,045	8,044	8,043	8,043	8,043
Coincident Peak Demand Reduction@ Gen (kW)	4	148	1,297	3,148	4,592	5,503	6,355	7,156	7,949	8,717	8,655	8,579	8,538	8,498	8,454	8,453	8,453	8,453	8,454
CP Reduction (%)	0.1%	0.4%	1.1%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$13,303,863	\$953	\$19,097	\$196,446	\$487,631	\$726,613	\$886,579	\$1,043,416	\$1,202,863	\$1,368,500	\$1,535,144	\$1,652,348	\$1,566,305	\$1,596,952	\$1,616,066	\$1,647,763	\$1,683,172	\$1,718,710	\$1,754,804
COSTS																			
Recently Installed Units (Includes replacement of units at end of useful life)	0	3	27	45	36	24	23	23	23	23	0	0	0	0	0	0	0	0	0
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$1,132	\$1,135	\$1,137	\$1,138	\$1,204	\$1,228	\$1,253	\$1,278	\$1,303	\$1,329	\$1,356	\$1,383	\$1,411	\$1,439	\$1,468	\$1,497	\$1,527	\$1,558	\$1,588
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit	\$1,132	\$1,135	\$1,137	\$1,138	\$1,204	\$1,228	\$1,253	\$1,278	\$1,303	\$1,329	\$1,356	\$1,383	\$1,411	\$1,439	\$1,468	\$1,497	\$1,527	\$1,558	\$1,588
Variable Utility/PA Installed Equipment Cost	\$212,155	\$112	\$1,967	\$11,330	\$52,953	\$41,727	\$29,337	\$28,368	\$29,244	\$29,742	\$30,654	\$30	\$30	\$30	\$30	\$30	\$30	\$30	\$30
Amortized Utility/PA Installed Equipment Cost	\$0	\$18	\$1,001	\$7,565	\$11,311	\$13,847	\$16,297	\$18,805	\$21,372	\$23,916	\$26,440	\$28,944	\$31,428	\$33,892	\$36,336	\$38,760	\$41,164	\$43,548	\$45,912
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (\$/kW-yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs	\$1,329,600	\$232,42	\$7,763,12	\$67,677,70	\$164,949,30	\$240,621,11	\$288,332,46	\$331,940,08	\$374,961,04	\$416,932,34	\$457,801,25	\$495,509,03	\$448,555,14	\$447,400,01	\$445,321,17	\$442,988,31	\$442,940,61	\$442,915,53	\$442,909,75
Implementation, Admin, Marketing	\$132,561	\$15,401	\$52,181	\$66,210	\$41,370	\$53,573	\$53,708	\$54,846	\$55,891	\$57,070	\$58,241	\$59,411	\$60,581	\$61,751	\$62,921	\$64,091	\$65,261	\$66,431	\$67,601
Fixed Program Costs	\$663,466	\$132,561	\$15,401	\$52,181	\$66,210	\$41,370	\$53,573	\$53,708	\$54,846	\$55,891	\$57,070	\$58,241	\$59,411	\$60,581	\$61,751	\$62,921	\$64,091	\$65,261	\$66,431
Control/Controller Software Costs	\$2,300	\$2,500	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501	\$3,569
Control/Controller Hardware Cost	\$15,185	\$15,000	\$15,950	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501
TOTAL UTILITY COSTS (No Amortization)	\$4,338,405	\$147,305	\$48,481	\$154,496	\$186,718	\$194,011	\$197,302	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330	\$197,330
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$4,370,536	\$147,305	\$146,047	\$118,180	\$141,375	\$126,011	\$108,512	\$94,761	\$81,484	\$69,729	\$59,802	\$51,261	\$43,609	\$36,485	\$30,361	\$24,845	\$19,829	\$15,311	\$11,385
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$928,885	\$147,372	\$41,728	\$86,318	\$122,819	\$107,885	\$88,870	\$73,869	\$60,962	\$50,921	\$42,980	\$36,062	\$29,861	\$24,245	\$19,180	\$14,486	\$10,001	\$6,616	\$4,331
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$905,089	\$147,270	\$18,284	\$58,283	\$76,456	\$75,390	\$76,180	\$77,411	\$78,513	\$79,577	\$80,618	\$81,638	\$82,638	\$83,618	\$84,578	\$85,518	\$86,438	\$87,338	\$88,218
UTILITY COST TEST																			
Total Benefits	\$11,353,855																		
Total Costs	\$4,258,400																		
UTC Benefit Cost Ratio	2.67																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$11,353,855																		
Total Costs	\$908,889																		
TIC Benefit Cost Ratio	12.47																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PMAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

User Input		2018																	
Project Name: Ameren DR Potential Com CPP Rate with Enabling Tech		Year End																	
Demand Response Program Name:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Firm Load Reduction? (Select from drop-down menu)		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
New Program? (Select from drop-down menu)		1,654																	
Load Shifting Program? (Select from drop-down menu)																			
Number of Control Units Per Participant																			
# of Existing Program - Year																			
Eligible Customers (From the Eligible Customers Tab)	Comments of the:	7,261	14,659	22,116	29,713	37,300	45,167	52,724	60,289	67,862	75,444	83,026	90,608	98,190	105,772	113,354	120,936	128,518	136,100
Coincident Peak (CP) Load Per Eligible Customer (kW)		18.17																	
Coincident Peak Load Efficiency Gain (Year 2)		0%	2.31%	4.37%	6.08%	7.77%	9.21%	10.48%	11.77%	12.91%	14.06%	15.07%	15.98%	16.78%	17.26%	17.72%	18.25%	18.33%	18.41%
Participant Incentive (\$/kW-yr)																			
Program Participation Rate (From Market Adoption Curve Tab)	Calculate or Enter Participation Rate:	97.9%	90.8%	78.2%	71.1%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%
Annual Number of Control Hours (If load shifting program, enter 0)		60																	
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)		21.5%																	
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants		7,125	13,315	17,304	21,188	25,799	31,165	36,380	41,599	46,825	52,056	57,285	62,514	67,743	72,972	78,201	83,430	88,659	93,888
Base Sector CP Demand (kW)		129,239	254,682	377,702	497,887	624,723	754,518	889,099	1,029,536	1,169,863	1,310,203	1,450,543	1,590,883	1,731,223	1,871,563	2,011,903	2,152,243	2,292,583	2,432,923
Base Participant CP Demand (kW)		126,454	231,325	295,254	354,183	421,551	506,817	581,119	658,182	731,073	801,148	878,056	956,555	1,037,279	1,120,879	1,207,209	1,296,109	1,388,329	1,483,809
Coincident Peak Demand Reduction (kW)		27,150	49,865	65,931	78,643	91,362	108,214	125,166	144,312	156,961	172,436	179,688	199,153	198,279	167,458	166,440	166,307	166,299	166,271
Coincident Peak Demand Reduction@ Gen (kW)		28,531	51,392	66,615	79,911	91,008	114,948	131,563	148,409	164,945	181,206	179,389	177,766	176,338	175,954	174,912	174,208	173,757	174,788
(\$/kW-yr)																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$243,154,110	\$2,395,995	\$4,579,961	\$9,869,744	\$12,069,081	\$14,790,349	\$17,961,948	\$21,086,484	\$24,276,927	\$27,504,802	\$30,820,770	\$34,120,431	\$37,455,403	\$40,818,798	\$44,204,413	\$47,646,617	\$51,148,518	\$54,706,445
COSTS																			
newly installed units (includes replacement of units at end of useful life)	NPV	11785	10237	6998	6341	7720	8876	8625	8634	8643	8653	11833	10285	6645	6389	7758	8022	8672	8680
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost		\$519	\$130	\$140	\$151	\$162	\$174	\$185	\$197	\$209	\$221	\$233	\$245	\$257	\$269	\$281	\$293	\$305	\$317
Utility/PA Per Unit Labor Cost		\$260	\$275	\$290	\$305	\$321	\$337	\$352	\$367	\$382	\$397	\$412	\$427	\$442	\$457	\$472	\$487	\$502	\$517
Total Utility/PA Installed Equipment Cost Per Unit		\$779	\$795	\$801	\$817	\$883	\$850	\$884	\$902	\$902	\$902	\$902	\$902	\$902	\$902	\$902	\$902	\$902	\$902
Variable Utility/PA Installed Equipment Cost		\$89,596,262	\$9,267,884	\$8,024,577	\$6,982,055	\$5,777,317	\$4,421,181	\$2,540,017	\$2,473,255	\$2,820,790	\$2,799,837	\$2,996,914	\$1,098,870	\$8,888,962	\$8,488,466	\$8,300,962	\$7,878,048	\$8,209,084	\$8,100,467
Amortized Utility/PA Installed Equipment Cost		\$94,792,614	\$1,220,389	\$2,362,750	\$3,022,087	\$3,709,649	\$4,378,634	\$5,088,396	\$5,994,172	\$7,411,150	\$8,669,776	\$9,760,445	\$10,011,694	\$10,262,929	\$10,514,174	\$10,765,419	\$11,016,664	\$11,267,909	\$11,519,154
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (\$/kW-yr)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implementation, Admin, Marketing		\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,382	\$41,179	\$42,000	\$42,847	\$43,720	\$44,619	\$45,544
OBM		\$274,120	\$122,486	\$692,611	\$862,990	\$1,074,360	\$1,323,780	\$1,617,171	\$1,888,371	\$2,110,678	\$2,393,427	\$2,442,654	\$2,482,284	\$2,521,284	\$2,560,657	\$2,600,374	\$2,640,435	\$2,680,841	\$2,721,592
Fixed Program Costs		\$181,441,735	\$156,614	\$155,630	\$156,487	\$157,413	\$158,399	\$159,446	\$160,554	\$161,722	\$162,950	\$164,238	\$165,576	\$166,964	\$168,402	\$169,890	\$171,428	\$172,916	\$174,454
Central Controller Software Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Hardware Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Central Controller Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL UTILITY COSTS (No Amortization)		\$109,897,797	\$9,424,508	\$8,190,207	\$6,908,472	\$5,675,389	\$4,388,754	\$2,899,873	\$2,086,619	\$1,504,486	\$1,046,386	\$728,374	\$428,393	\$227,278	\$109,798	\$8,096,083	\$10,568,789	\$11,887,746	\$11,961,840
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$114,234,368	\$1,377,003	\$2,877,340	\$3,739,005	\$4,606,922	\$5,483,167	\$6,448,062	\$7,496,336	\$8,696,847	\$10,018,126	\$11,427,205	\$12,970,225	\$14,700,244	\$16,568,263	\$18,646,315	\$20,998,383	\$24,689,448	\$24,323,251
TOTAL PROGRAM COSTS - TIC (No Amortization)		\$109,897,797	\$9,424,508	\$8,190,207	\$6,908,472	\$5,675,389	\$4,388,754	\$2,899,873	\$2,086,619	\$1,504,486	\$1,046,386	\$728,374	\$428,393	\$227,278	\$109,798	\$8,096,083	\$10,568,789	\$11,887,746	\$11,961,840
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)		\$114,234,368	\$1,377,003	\$2,877,340	\$3,739,005	\$4,606,922	\$5,483,167	\$6,448,062	\$7,496,336	\$8,696,847	\$10,018,126	\$11,427,205	\$12,970,225	\$14,700,244	\$16,568,263	\$18,646,315	\$20,998,383	\$24,689,448	\$24,323,251
UTILITY COST TEST																			
Total Benefits		\$243,154,110																	
Total Costs		\$109,897,797																	
UTC Benefit Cost Ratio		2.21																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$243,154,110																	
Total Costs		\$109,897,797																	
TIC Benefit Cost Ratio		2.21																	

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COMMERCIAL - DEMAND RESPONSE - PMAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

User Input																				
PROJECT NAME: AMEREN DR PMAP DEMAND RESPONSE PROGRAM NAME: Com CPP Rate without Enabling Tech																				
Firm Load Reduction? (Select from drop-down menu)	NO																			
New Program? (Select from drop-down menu)	YES																			
Load Shifting Program? (Select from drop-down menu)	YES																			
Number of Control Units Per Participant	1																			
# of Existing Program - Year	2018																			
Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036		
Eligible Customers (From the Eligible Customers Tab)	8,475	18,495	30,729	41,336	53,334	66,844	78,026	88,224	100,412	111,653	111,754	111,776	111,817	111,868	111,960	112,022	112,063	112,146		
Coincident Peak (CP) Load Per Eligible Customer (kW)	18.17																			
Coincident Peak Load Efficiency Gain (Per 20)	0%	2.31%	4.37%	6.08%	7.77%	9.21%	10.48%	11.77%	12.91%	14.06%	15.07%	15.98%	16.78%	17.26%	17.72%	18.25%	18.33%	18.41%	18.47%	
Participant Incentive (\$/kW-Yr.)																				
Program Participation Rate (From Market Adoption Curve Tab)	97.4%	89.1%	73.9%	65.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	
Annual Number of Control Hours (If load shifting program, enter 0)	60																			
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																			
Program Savings Factor (Percent of CP Load)	11.3%																			
Per Participant CP Reduction (kW)																				
LOAD REDUCTION																				
Number of Program Participants	8,453	16,471	22,723	28,409	34,860	42,112	49,157	56,211	63,272	70,341	70,380	70,419	70,458	70,496	70,535	70,574	70,612	70,652	70,692	
Base Sector CP Demand (kW)	151,856	221,314	324,235	376,255	452,979	527,091	607,091	691,091	778,091	868,091	868,091	868,091	868,091	868,091	868,091	868,091	868,091	868,091	868,091	868,091
Base Participant CP Demand (kW)	150,023	286,161	387,717	476,012	574,988	684,810	787,519	888,363	987,888	1,085,254	1,074,308	1,064,579	1,055,000	1,045,786	1,040,543	1,041,011	1,041,614	1,042,464	1,043,547	
Coincident Peak Demand Reduction (kW)	26,933	32,385	43,812	53,789	64,994	77,380	89,055	100,488	111,629	122,624	122,997	123,297	123,616	123,954	124,311	124,687	125,083	125,499	125,936	
Coincident Peak Demand Reduction@ 20 (kW)	17,845	13,982	46,040	56,255	68,778	81,322	93,953	106,620	117,307	126,871	127,075	127,156	127,214	127,261	127,308	127,355	127,402	127,449	127,496	
(\$/kW-Yr.)																				
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$172,246,463	\$1,491,213	\$4,278,224	\$6,817,229	\$8,587,117	\$10,534,459	\$12,778,387	\$14,996,602	\$17,265,250	\$19,561,078	\$21,819,247	\$22,192,136	\$22,376,333	\$22,700,098	\$23,068,141	\$23,359,686	\$23,615,093	\$23,811,812	\$24,703,848	
COSTS																				
RPV	8453	8018	6252	5686	6452	7251	7045	7054	7061	7069	38	39	39	38	39	39	38	39	40	
Number of Installed Units (Includes replacement of units at end of useful life)																				
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																				
Utility/PA Per Unit Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Installed Equipment Cost Per Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Variable Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Amortized Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																				
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-Yr.)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation, Admin, Marketing	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499		
Fixed Program Costs	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortisation)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
TOTAL PROGRAM COSTS - TIC (No Amortisation)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
UTILITY COST TEST																				
Total Benefits	\$172,246,463																			
Total Costs	\$486,356																			
TIC Benefits Cost Ratio	353.95																			
TOTAL RESOURCE COST TEST																				
Total Benefits	\$172,246,463																			
Total Costs	\$486,356																			
TIC Benefits Cost Ratio	353.95																			

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COMMERCIAL - DEMAND RESPONSE - PMAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																		
	2018	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Project Name:	Ameren CP Potential Com Demand Bidding																		
Firm Load Reduction? (Select from drop-down menu)	NO																		
New Program? (Select from drop-down menu)	YES																		
Load Shifting Program? (Select from drop-down menu)	NO																		
Number of Control Units Per Participant	1																		
If Existing Program - Total Number of Participants	2018																		
Eligible Customers (From the Eligible Customers Tab)	0	0	0	4,500	10,432	16,048	21,613	27,182	32,758	38,340	38,361	38,381	38,401	38,421	38,440	38,461	38,481	38,500	38,500
Coincident Peak (CP) Load Per Eligible Customer (kW)	6.05																		
Coincident Peak Load Efficiency Gain (Per 20)	0%	2.31%	4.93%	6.08%	7.77%	9.21%	10.48%	11.77%	12.91%	14.06%	15.07%	15.98%	16.78%	17.26%	17.72%	18.25%	18.33%	18.41%	18.47%
Participant Incentive (\$/kW-yr)	-																		
Program Participation Rate (From Market Adoption Curve Tab)	0.7%	3.0%	7.0%	9.3%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Annual Number of Control Hours (If load shifting program, enter 0)	80																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)	7.0%																		
Per Participant CP Reduction (kW)	-																		
LOAD REDUCTION																			
Number of Program Participants	-	-	-	421	1,043	1,605	2,161	2,718	3,276	3,834	3,836	3,838	3,840	3,842	3,844	3,846	3,848	3,848	3,850
Base Sector CP Demand (kW)	-	-	-	27,214	63,073	98,563	134,203	170,013	205,844	241,700	241,722	241,744	241,766	241,788	241,810	241,832	241,854	241,876	241,898
Base Participant CP Demand (kW)	-	-	-	2,541	6,107	9,656	12,900	16,144	19,388	22,632	22,654	22,676	22,698	22,720	22,742	22,764	22,786	22,808	22,830
Coincident Peak Demand Reduction (kW)	-	-	-	164	400	606	804	999	1,187	1,375	1,360	1,345	1,330	1,315	1,300	1,285	1,270	1,255	1,240
Coincident Peak Demand Reduction@ 20 (kW)	-	-	-	172	420	637	855	1,073	1,291	1,482	1,467	1,452	1,437	1,422	1,407	1,392	1,377	1,362	1,347
(\$/kW-yr)	-																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$1,674,233	0	50	50	426,478	846,433	1,269,586	1,692,739	2,115,892	2,539,045	2,539,045	2,539,045	2,539,045	2,539,045	2,539,045	2,539,045	2,539,045	2,539,045	2,539,045
COSTS																			
Recently Installed Units (Includes replacement of units at end of useful life)	0	0	0	421	622	562	556	557	558	558	2	2	2	2	2	2	2	2	2
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Variable Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortized Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total UTILITY/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (\$/kW-yr)	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5
Total Non-Equipment Program Incentive Costs	\$369,018	\$0	\$0	\$0	\$6,809	\$16,793	\$26,470	\$36,147	\$45,824	\$55,501	\$57,730	\$57,730	\$57,730	\$57,730	\$57,730	\$57,730	\$57,730	\$57,730	\$57,730
Implementation, Admin, Marketing	\$132,494	\$33,144	\$33,807	\$64,278	\$80,043	\$77,202	\$78,360	\$79,518	\$80,676	\$81,834	\$82,992	\$84,150	\$85,308	\$86,466	\$87,624	\$88,782	\$89,940	\$91,098	\$92,256
Fixed Program Costs	\$742,173	\$132,494	\$33,144	\$33,807	\$64,278	\$80,043	\$77,202	\$78,360	\$79,518	\$80,676	\$81,834	\$82,992	\$84,150	\$85,308	\$86,466	\$87,624	\$88,782	\$89,940	\$91,098
Central Controller Software Costs	\$2,500	\$2,550	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501	\$3,571
Central Controller Hardware Cost	\$12,500	\$12,550	\$12,601	\$12,653	\$12,706	\$12,760	\$12,815	\$12,872	\$12,929	\$12,988	\$13,047	\$13,108	\$13,171	\$13,234	\$13,299	\$13,365	\$13,432	\$13,501	\$13,571
Central Controller Costs	\$15,000	\$15,100	\$15,201	\$15,358	\$15,466	\$15,566	\$15,687	\$15,821	\$15,977	\$16,147	\$16,335	\$16,542	\$16,770	\$17,019	\$17,290	\$17,584	\$17,902	\$18,245	\$18,618
TOTAL UTILITY COSTS (No Amortization)	\$1,164,416	\$447,494	\$35,694	\$36,408	\$79,820	\$99,540	\$109,432	\$114,965	\$124,854	\$134,408	\$144,012	\$153,477	\$162,801	\$171,983	\$181,014	\$190,004	\$198,954	\$207,864	\$216,734
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,164,416	\$447,494	\$35,694	\$36,408	\$79,820	\$99,540	\$109,432	\$114,965	\$124,854	\$134,408	\$144,012	\$153,477	\$162,801	\$171,983	\$181,014	\$190,004	\$198,954	\$207,864	\$216,734
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$795,859	\$447,494	\$35,694	\$36,408	\$66,931	\$82,749	\$79,962	\$81,175	\$82,840	\$84,543	\$86,281	\$88,053	\$89,867	\$91,714	\$93,594	\$95,507	\$97,454	\$99,436	\$101,454
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$795,859	\$447,494	\$35,694	\$36,408	\$66,931	\$82,749	\$79,962	\$81,175	\$82,840	\$84,543	\$86,281	\$88,053	\$89,867	\$91,714	\$93,594	\$95,507	\$97,454	\$99,436	\$101,454
UTILITY COST TEST																			
Total Benefits	\$1,674,233																		
Total Costs	\$1,164,416																		
TIC Benefits Cost Ratio	1.44																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$1,674,233																		
Total Costs	\$795,859																		
TIC Benefits Cost Ratio	2.10																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PMAF
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

		User Input																		
PROJECT NAME:		Ameren DR Potential Com Demand Bidding																		
DEMAND RESPONSE PROGRAM NAME:																				
Firm Load Reduction? (Select from drop-down menu)		NO																		
New Program? (Select from drop-down menu)		YES																		
Load Shifting Program? (Select from drop-down menu)		NO																		
Number of Control Units Per Participant		1																		
If Existing Program - Total Number of Participants		2018																		
Age of Existing Program - Year		Year End																		
Item		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers Tab)	Component of the	207	1,890	7,474	11,931	18,097	23,059	26,916	30,777	34,642	38,511	38,512	38,512	38,512	38,512	38,512	38,512	38,512	38,512	
Coincident Peak (CP) Load Per Eligible Customer (kW)		6.05																		
Coincident Peak Load Efficiency Gain (Per 20)		0%	2.31%	4.37%	6.08%	7.77%	9.21%	10.48%	11.77%	12.91%	14.06%	15.07%	15.98%	16.78%	17.26%	17.72%	18.25%	18.33%	18.41%	18.47%
Participant Incentive (\$/kW-yr)																				
Program Participation Rate (From Market Adoption Curve Tab)	Calculate on basis of Participation Rate	0.7%	3.0%	7.0%	9.3%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Annual Number of Control Hours (If load shifting program, enter 0)		80																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																			
Program Savings Factor (Percent of CP Load)		7.0%																		
Per Participant CP Reduction (kW)																				
LOAD REDUCTION																				
Number of Program Participants		1	57	523	1,286	1,910	2,306	2,692	3,078	3,464	3,851	3,853	3,855	3,857	3,859	3,861	3,863	3,865	3,867	3,869
Base Sector CP Demand (kW)		1,217	10,812	42,297	77,423	104,475	124,378	141,251	161,028	179,398	197,298	195,090	193,313	192,211	191,343	190,199	190,205	190,020	189,982	189,982
Base Participant CP Demand (kW)		9	327	2,861	7,200	10,447	12,418	14,310	16,152	17,940	19,708	19,509	19,331	19,231	19,134	19,030	19,010	19,002	18,998	18,998
Coincident Peak Demand Reduction (kW)		1	23	207	504	731	871	1,002	1,131	1,230	1,360	1,365	1,353	1,346	1,339	1,331	1,331	1,331	1,330	1,330
Coincident Peak Demand Reduction@ Gen (kW)		1	24	218	530	769	915	1,053	1,188	1,300	1,400	1,435	1,422	1,415	1,408	1,399	1,398	1,398	1,398	1,398
(\$/kW-yr)		7.7																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$1,884,378	\$59	\$3,098	\$32,961	\$62,447	\$123,696	\$147,415	\$173,386	\$199,739	\$228,348	\$254,732	\$257,409	\$259,824	\$263,597	\$267,653	\$272,709	\$278,452	\$284,224	\$290,085
COSTS																				
Non-Installed Units (Includes replacement of units at end of useful life)	NPV	1	55	466	772	654	396	386	386	386	387	2	2	2	2	2	2	2	2	2
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																				
Utility/PA Per Unit Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utility/PA Per Unit Labor Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Installed Equipment Cost Per Unit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Variable Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortized Utility/PA Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																				
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total UTILITY/PA Contribution to Participant Equipment Costs		\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Non-Equipment Participant Incentive (\$/kW-yr)		\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5
Total Non-Equipment Program Incentive Costs		\$421,955	\$25	\$963	\$8,712	\$21,186	\$30,741	\$36,597	\$42,456	\$48,325	\$54,286	\$57,488	\$57,483	\$56,881	\$56,386	\$56,381	\$55,984	\$55,937	\$55,912	\$55,905
Implementation, Admin, Marketing		\$132,590	\$36,900	\$66,152	\$89,114	\$79,478	\$65,032	\$65,548	\$66,884	\$68,254	\$69,653	\$39,781	\$40,563	\$41,381	\$42,207	\$43,046	\$43,914	\$44,790	\$45,683	\$46,583
Fixed Program Costs		\$793,379	\$132,590	\$36,900	\$66,152	\$89,114	\$79,478	\$65,032	\$65,548	\$66,884	\$68,254	\$69,653	\$39,781	\$40,563	\$41,381	\$42,207	\$43,046	\$43,914	\$44,790	\$45,683
Central Controller Software Costs		\$2,500	\$2,500	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501	\$3,571
Central Controller Hardware Cost		\$12,000	\$12,000																	
Central Controller Costs		\$53,185	\$15,000	\$2,500	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501
TOTAL UTILITY COSTS (No Amortisation)		\$1,236,519	\$447,615	\$40,411	\$77,465	\$112,953	\$112,925	\$104,389	\$110,469	\$117,281	\$123,969	\$130,629	\$112,791	\$108,552	\$101,138	\$103,742	\$102,309	\$108,215	\$104,134	\$105,084
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$1,236,519	\$447,615	\$40,411	\$77,465	\$112,953	\$112,925	\$104,389	\$110,469	\$117,281	\$123,969	\$130,629	\$112,791	\$108,552	\$101,138	\$103,742	\$102,309	\$108,215	\$104,134	\$105,084
TOTAL PROGRAM COSTS - TIC (No Amortisation)		\$804,564	\$147,590	\$39,450	\$68,753	\$91,767	\$82,184	\$67,792	\$68,363	\$69,756	\$71,183	\$72,641	\$55,328	\$43,671	\$44,552	\$45,441	\$46,344	\$47,279	\$48,222	\$49,183
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)		\$804,564	\$147,590	\$39,450	\$68,753	\$91,767	\$82,184	\$67,792	\$68,363	\$69,756	\$71,183	\$72,641	\$55,328	\$43,671	\$44,552	\$45,441	\$46,344	\$47,279	\$48,222	\$49,183
UTILITY COST TEST																				
Total Benefits		\$1,884,378																		
Total Costs		\$1,204,519																		
TIC Benefits Cost Ratio		1.56																		
TOTAL RESOURCE COST TEST																				
Total Benefits		\$1,884,378																		
Total Costs		\$804,564																		
TIC Benefits Cost Ratio		2.34																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PMAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
— User Input																			
PROJECT NAME:	Ameren DR Potential																		
DEMAND RESPONSE PROGRAM NAME:	Com D.L.C. - Air Conditioning Switch																		
Firm Load Reduction? (Select from drop-down menu)	YES																		
New Program? (Select from drop-down menu)	NO																		
Load Shifting Program? (Select from drop-down menu)	NO																		
Number of Control Units Per Participant	1																		
# of Existing Program - Year	2018																		
Eligible Customers (From the Eligible Customers Tab)	101,809	80,384	80,911	72,204	63,890	50,076	37,884	26,677	13,457	1,224	1,224	1,223	1,223	1,222	1,221	1,222	1,221	1,221	
Coincident Peak (CP) Load Per Eligible Customer (kW)	6.05																		
Coincident Peak Load Efficiency Gain (Per %)	0%	1.85%	3.68%	5.50%	7.32%	9.06%	10.79%	12.59%	14.06%	15.56%	17.03%	18.99%	19.77%	21.20%	22.69%	24.16%	24.67%	25.15%	25.53%
Participant Incentive (\$/kW-yr.)	Calculate on Other Participation Basis																		
Program Participation Rate (From Market Adoption Curve Tab)	1.0%	4.2%	9.8%	13.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%
Annual Number of Control Hours	80																		
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																		
Program Savings Factor (Percent of CP Load)	1.00																		
Per Participant CP Reduction (kW)	1.60																		
LOAD REDUCTION																			
Number of Program Participants	1,057	8,796	7,931	9,401	8,655	7,011	5,304	3,595	1,884	171	171	171	171	171	171	171	171	171	171
Base Sector CP Demand (kW)	611,981	524,025	460,954	401,285	331,155	269,182	195,548	131,964	68,470	6,212	6,020	5,913	5,806	5,694	5,582	5,548	5,510	5,479	5,479
Base Participant CP Demand (kW)	6,037	22,033	45,164	52,568	47,479	37,686	27,817	18,615	9,586	857	843	828	813	797	781	777	777	777	767
Coincident Peak Demand Reduction (kW)	1,598	5,850	11,992	13,942	12,607	10,007	7,438	4,943	2,545	228	224	220	216	212	207	206	205	204	204
Coincident Peak Demand Reduction@ Gen (kW)	1,679	6,148	12,602	14,651	13,248	10,515	7,795	5,198	2,875	239	235	231	227	222	218	217	215	214	214
(\$/kW-yr.)	1.60																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$19,729,466	\$48,477,677	\$68,276,270	\$2,271,702	\$2,981,937	\$2,364,371	\$1,827,487	\$1,460,332	\$992,943	\$523,732	\$47,763	\$47,938	\$47,867	\$48,042	\$48,080	\$48,277	\$48,015	\$48,796	\$50,408
COSTS																			
Non-Installed Units (Includes replacement of units at end of useful life)	1017	2779	4135	1470	0	0	0	0	0	0	0	1017	2779	4135	1470	0	0	0	0
Equipment that will be directly installed and owned by utility OR PA	0																		
Utility/PA Per Unit Equipment Cost	\$300	\$71	\$73	\$74	\$76	\$77	\$79	\$80	\$82	\$84	\$85	\$87	\$89	\$91	\$92	\$94	\$96	\$96	\$98
Utility/PA Per Unit Labor Cost	\$200	\$296	\$308	\$313	\$316	\$321	\$325	\$330	\$334	\$338	\$344	\$349	\$354	\$359	\$364	\$369	\$375	\$375	\$380
Total Utility/PA Installed Equipment Cost Per Unit	\$270	\$276	\$281	\$287	\$292	\$298	\$304	\$310	\$316	\$322	\$329	\$336	\$342	\$349	\$356	\$363	\$371	\$377	\$378
Variable Utility/PA Installed Equipment Cost	\$4,010,100	\$274,877	\$765,248	\$1,181,180	\$421,128	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$184,830	\$322,882	\$1,415,866	\$313,931	\$0	\$47	\$0
Amortized Utility/PA Installed Equipment Cost	\$4,285,012	\$286,967	\$1,193,962	\$296,292	\$421,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969	\$192,969
Equipment that will be installed and owned by the participant	0																		
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-Equipment Participant Incentives (Participant-yr.)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Participant Incentive Costs	\$2,399,091	\$61,039	\$227,760	\$475,875	\$84,061	\$53,872	\$426,640	\$318,224	\$215,685	\$113,088	\$10,286	\$10,282	\$10,272	\$10,272	\$10,268	\$10,269	\$10,266	\$10,263	\$10,256
Implementation, Admin, Marketing	\$157,432	\$239,737	\$338,580	\$156,833	\$53,935	\$55,014	\$16,114	\$17,236	\$58,381	\$59,548	\$60,739	\$61,954	\$63,193	\$64,457	\$65,746	\$67,072	\$68,402	\$69,771	\$71,184
Fixed Program Costs	\$1,299,432	\$157,432	\$239,737	\$338,580	\$156,833	\$53,935	\$55,014	\$16,114	\$17,236	\$58,381	\$59,548	\$60,739	\$61,954	\$63,193	\$64,457	\$65,746	\$67,072	\$68,402	\$69,771
Central Controller Software Costs	\$2,500	\$2,500	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501	\$3,571
Central Controller Hardware Cost	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500
Central Controller Costs	\$55,185	\$15,000	\$2,500	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	\$3,501
TOTAL PROGRAM COSTS - LCT (No Amortization)	\$7,802,813	\$608,349	\$1,236,344	\$1,978,642	\$1,144,874	\$576,511	\$478,434	\$177,153	\$275,792	\$174,348	\$72,822	\$421,399	\$1,008,218	\$1,492,602	\$581,310	\$79,304	\$88,745	\$82,097	\$81,527
TOTAL PROGRAM COSTS - LCT (Amortized Installed Equipment Costs)	\$6,098,719	\$270,839	\$610,218	\$1,118,349	\$1,076,517	\$926,482	\$823,283	\$780,112	\$682,761	\$527,217	\$420,791	\$487,634	\$468,956	\$494,891	\$508,237	\$505,572	\$502,976	\$512,370	\$513,909
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$5,402,723	\$447,310	\$1,007,575	\$1,502,766	\$988,613	\$56,641	\$57,774	\$58,229	\$66,108	\$61,310	\$62,536	\$61,117	\$62,536	\$61,117	\$62,536	\$61,117	\$62,536	\$61,117	\$62,536
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$5,837,629	\$209,599	\$382,249	\$637,473	\$512,455	\$409,620	\$410,743	\$411,898	\$413,077	\$414,279	\$415,505	\$416,752	\$418,023	\$419,319	\$420,640	\$421,987	\$423,359	\$424,757	\$426,181
UTILITY COSTS TEST																			
Total Benefits	\$19,729,466																		
Total Costs	\$7,802,813																		
LCT Benefits Cost Ratio	1.38																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$19,729,466																		
Total Costs	\$5,402,723																		
TIC Benefits Cost Ratio	1.39																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

COMMERCIAL - DEMAND RESPONSE - PMAF
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

- User Input																			
PROJECT NAME: DEMAND RESPONSE PROGRAM NAME:		Ameren CP Residential Com.: Plug In Electric Vehicle																	
Firm Load Reduction? (Select from drop-down menu)		NO																	
New Program? (Select from drop-down menu)		YES																	
Load Shifting Program? (Select from drop-down menu)		YES																	
Number of Control Units Per Participant		1																	
If Existing Program - Total Number of Participants		1																	
Start of Existing Program - Year		2018																	
Year End																			
Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers Tab)	754	908	1,084	1,300	1,526	1,821	2,076	2,340	2,615	2,900	3,195	3,500	3,814	4,138	4,471	4,814	5,166	5,527	
Coincident Peak (CP) Load Per Eligible Customer (kW)	6.05																		
Coincident Peak Load Efficiency Gain (Near 20)	3.7%																		
Participant Incentive (\$/kW-Yr.)	\$0																		
Program Participation Rate (From Market Adoption Curve Tab)	99.0%	98.2%	95.8%	94.4%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	94.0%	
Annual Number of Control Hours	1407																		
Type of Savings Factor (Select from drop-down menu)	Per Participant CP Reduction (kW)																		
Program Savings Factor (Percent of CP Load)																			
Per Participant CP Reduction (kW)	0.47																		
LOAD REDUCTION																			
Number of Program Participants	751	892	1,078	1,312	1,576	1,821	2,076	2,340	2,615	2,900	3,195	3,500	3,814	4,138	4,471	4,814	5,166	5,527	
Base Sector CP Demand (kW)	4,534	5,449	6,492	8,207	10,000	11,812	13,781	15,804	17,881	19,996	22,150	24,343	26,574	28,842	31,147	33,489	35,868	38,284	
Base Participant CP Demand (kW)	4,515	5,382	6,217	7,843	9,637	11,484	13,384	15,337	17,343	19,401	21,512	23,675	25,890	28,156	30,473	32,841	35,259	37,727	
Coincident Peak Demand Reduction (kW)	351	419	488	657	807	1,025	1,271	1,542	1,800	2,156	2,577	3,069	3,624	4,241	4,924	5,673	6,489	7,372	
Coincident Peak Demand Reduction@ Gen (kW)	371	442	513	688	848	1,078	1,355	1,620	1,892	2,276	2,709	3,241	3,844	4,511	5,244	6,043	6,908	7,840	
LSH(1/1)	0.7%																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$3,820,194	\$461,281	\$55,460	\$75,927	\$97,896	\$130,599	\$169,323	\$214,008	\$264,891	\$335,478	\$429,722	\$549,969	\$695,871	\$869,992	\$1,075,634	\$1,316,632	\$1,595,557	\$1,914,444	
COSTS																			
Number of Installed Units (Includes replacement of units at end of useful life)	751	141	146	274	404	465	522	577	550	778	875	876	713	445	446	446	446	446	
Equipment that will be directly installed and owned by utility or PA																			
Utility/PA Per Unit Equipment Cost	\$212	\$257	\$267	\$267	\$273	\$278	\$284	\$289	\$295	\$301	\$307	\$313	\$320	\$326	\$333	\$339	\$346	\$353	
Utility/PA Per Unit Labor Cost	\$48	\$49	\$50	\$51	\$52	\$53	\$54	\$55	\$56	\$57	\$59	\$60	\$61	\$62	\$63	\$65	\$66	\$67	
Total Utility/PA Installed Equipment Cost Per Unit	\$300	\$306	\$312	\$318	\$325	\$331	\$338	\$345	\$351	\$358	\$364	\$370	\$377	\$384	\$390	\$396	\$402	\$409	
Variable Utility/PA Installed Equipment Cost	\$1,014,877	\$225,263	\$41,144	\$46,669	\$67,281	\$111,238	\$154,117	\$176,236	\$188,893	\$193,289	\$279,040	\$320,037	\$328,769	\$271,452	\$172,549	\$176,372	\$179,607	\$181,488	
Amortized Utility/PA Installed Equipment Cost	\$2,045,255	\$19,021	\$23,021	\$26,944	\$34,406	\$44,862	\$56,901	\$74,619	\$94,079	\$107,688	\$119,004	\$129,645	\$138,075	\$144,108	\$147,539	\$149,287	\$150,718	\$151,937	
Equipment that will be installed and owned by the participant																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-H)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation Admin	\$215,034	\$75,874	\$77,760	\$88,357	\$99,497	\$105,992	\$112,345	\$118,838	\$119,086	\$139,662	\$150,322	\$153,406	\$142,728	\$122,404	\$124,934	\$127,433	\$129,982	\$132,581	
Marketing Evaluation																			
Field Program Costs	\$1,424,749	\$215,034	\$75,874	\$77,760	\$88,357	\$99,497	\$105,992	\$112,345	\$118,838	\$119,086	\$139,662	\$150,322	\$153,406	\$142,728	\$122,404	\$124,934	\$127,433	\$129,982	
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortization)	\$3,499,426	\$440,297	\$119,022	\$123,428	\$175,888	\$230,725	\$286,111	\$328,001	\$371,731	\$422,975	\$481,711	\$549,359	\$626,195	\$712,180	\$807,632	\$912,632	\$1,028,199	\$1,154,449	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,476,004	\$234,266	\$98,897	\$104,700	\$122,783	\$145,179	\$164,893	\$180,364	\$201,917	\$229,764	\$272,256	\$309,366	\$346,481	\$383,680	\$420,921	\$458,211	\$495,551	\$532,940	
TOTAL PROGRAM COSTS - (No Amortization)	\$3,499,426	\$440,297	\$119,022	\$123,428	\$175,888	\$230,725	\$286,111	\$328,001	\$371,731	\$422,975	\$481,711	\$549,359	\$626,195	\$712,180	\$807,632	\$912,632	\$1,028,199	\$1,154,449	
TOTAL PROGRAM COSTS - (No Amortization) - (Including Amortized Installed Equipment Cost)	\$3,499,426	\$234,266	\$98,897	\$104,700	\$122,783	\$145,179	\$164,893	\$180,364	\$201,917	\$229,764	\$272,256	\$309,366	\$346,481	\$383,680	\$420,921	\$458,211	\$495,551	\$532,940	
UTILITY COST TEST																			
Total Benefits	\$3,820,194																		
Total Costs	\$1,495,426																		
NET Benefit Cost Ratio	1.10																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$3,820,194																		
Total Costs	\$1,495,426																		
NET Benefit Cost Ratio	1.10																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

INDUSTRIAL - DEMAND RESPONSE - PMAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

Item	Year End																		
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers Tab)	6	30	95	163	218	263	308	352	395	440	440	440	440	440	440	441	441	441	
Coincident Peak (CP) Load Per Eligible Customer (kW)	654.56																		
Coincident Peak Load Efficiency Gain (Near 20)	0%	2.09%	3.62%	5.06%	6.33%	7.64%	8.91%	10.17%	11.95%	12.58%	13.71%	14.80%	15.82%	16.79%	17.73%	18.73%	18.78%	18.77%	
Participant Incentive (\$/kW-Yr.)	\$50.00																		
Program Participation Rate (From Market Adoption Curve Tab)	0.0%	2.4%	5.0%	7.4%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	
Annual Number of Control Hours (If load shifting program, enter 0)	80																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																		
Program Savings Factor (Percent of CP Load)	19.3%																		
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants	0	1	5	12	17	21	25	28	32	35	35	35	35	35	35	35	35	35	
Base Sector CP Demand (kW)	3,582	17,984	55,397	93,882	122,704	147,239	169,007	192,522	212,408	232,424	230,588	237,489	224,958	222,385	219,954	220,049	220,245	220,354	
Base Participant CP Demand (kW)	20	432	3,097	6,985	8,986	11,779	13,593	15,324	16,993	18,674	18,447	17,997	17,907	17,807	17,507	17,604	17,611	17,620	
Coincident Peak Demand Reduction (kW)	4	84	604	1,362	1,930	2,297	2,651	2,988	3,314	3,641	3,597	3,349	3,509	3,472	3,431	3,433	3,434	3,436	
Coincident Peak Demand Reduction@ Gain (kW)	4	88	635	1,451	2,028	2,414	2,765	3,140	3,482	3,827	3,790	3,729	3,688	3,649	3,606	3,607	3,609	3,611	
(\$/kW-Yr.)																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$4,949,139	\$233	\$11,468	\$96,060	\$221,722	\$329,888	\$388,909	\$458,787	\$527,859	\$597,262	\$672,387	\$678,034	\$680,805	\$687,721	\$693,879	\$702,837	\$718,297	\$733,625	\$748,486
COSTS																			
Non-Program Participant Incentives (\$/kW-Yr.)	0	1	5	12	17	21	25	28	32	35	35	35	35	35	35	35	35	35	
Equipment that will be directly installed and owned by utility or PA																			
Utility/PA Per Unit Equipment Cost	\$1,482	\$1,491	\$1,521	\$1,552	\$1,583	\$1,614	\$1,647	\$1,680	\$1,713	\$1,748	\$1,782	\$1,818	\$1,854	\$1,892	\$1,929	\$1,968	\$2,007	\$2,048	
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Installed Equipment Cost Per Unit	\$1,482	\$1,491	\$1,521	\$1,552	\$1,583	\$1,614	\$1,647	\$1,680	\$1,713	\$1,748	\$1,782	\$1,818	\$1,854	\$1,892	\$1,929	\$1,968	\$2,007	\$2,048	
Variable Utility/PA Installed Equipment Cost	\$41,120	\$48	\$1,038	\$6,365	\$10,603	\$14,844	\$19,086	\$23,332	\$27,580	\$31,830	\$36,080	\$40,330	\$44,580	\$48,830	\$53,080	\$57,330	\$61,580	\$65,830	
Amortized Utility/PA Installed Equipment Cost	\$45,605	\$4	\$981	\$6,691	\$11,407	\$16,128	\$20,849	\$25,570	\$30,291	\$35,012	\$39,733	\$44,454	\$49,175	\$53,896	\$58,617	\$63,338	\$68,059	\$72,780	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																			
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-Yr.)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Incentives (\$/kW)	\$0	\$212	\$1,523	\$3,435	\$4,867	\$5,793	\$6,685	\$7,536	\$8,337	\$9,184	\$9,072	\$8,950	\$8,851	\$8,751	\$8,654	\$8,558	\$8,461	\$8,366	
Total Non-Equipment Program Incentive Costs	\$1,453,902	\$212.41	\$4,634.50	\$33,250.89	\$75,001.22	\$106,263.77	\$126,480.80	\$145,953.11	\$164,546.28	\$182,461.71	\$200,515.04	\$198,078.55	\$195,416.39	\$193,242.80	\$191,204.41	\$188,952.30	\$189,025.80	\$189,106.13	\$189,202.09
Implementation, Admin, Marketing	\$132,516	\$13,617	\$36,082	\$59,315	\$78,994	\$98,530	\$119,281	\$140,000	\$160,806	\$181,690	\$192,622	\$193,602	\$194,622	\$195,682	\$196,789	\$197,933	\$199,113	\$200,328	
Fixed Program Costs	\$556,033	\$132,516	\$13,617	\$36,082	\$59,315	\$78,994	\$98,530	\$119,281	\$140,000	\$160,806	\$181,690	\$192,622	\$193,602	\$194,622	\$195,682	\$196,789	\$197,933	\$199,113	
Control of Control Software Costs	\$12,500	\$2,300	\$2,550	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	
Control of Control Hardware Cost	\$12,500	\$2,300	\$2,550	\$2,601	\$2,653	\$2,706	\$2,760	\$2,815	\$2,872	\$2,929	\$2,988	\$3,047	\$3,108	\$3,171	\$3,234	\$3,299	\$3,365	\$3,432	
Control of Control Costs	\$53,185	\$15,000	\$15,550	\$16,061	\$16,613	\$17,166	\$17,720	\$18,275	\$18,832	\$19,390	\$19,949	\$20,509	\$21,070	\$21,632	\$22,195	\$22,759	\$23,324	\$23,890	
TOTAL UTILITY COSTS (No Amortization)	\$1,206,241	\$147,376	\$41,839	\$78,799	\$117,370	\$156,348	\$195,826	\$235,804	\$276,282	\$317,260	\$358,738	\$399,716	\$440,204	\$480,202	\$519,720	\$558,778	\$597,376	\$635,514	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$2,108,726	\$147,376	\$40,899	\$77,524	\$116,569	\$155,548	\$195,026	\$234,504	\$274,982	\$315,460	\$355,938	\$396,416	\$436,894	\$477,372	\$517,850	\$558,328	\$598,806	\$639,284	
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$682,339	\$147,376	\$37,205	\$69,344	\$106,379	\$143,414	\$180,449	\$217,484	\$254,519	\$291,554	\$328,589	\$365,624	\$402,659	\$439,694	\$476,729	\$513,764	\$550,800	\$587,835	
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$687,770	\$147,376	\$38,265	\$70,404	\$107,419	\$144,454	\$181,489	\$218,524	\$255,559	\$292,594	\$329,629	\$366,664	\$403,700	\$440,735	\$477,770	\$514,805	\$551,840	\$588,875	
UTILITY COST TEST																			
Total Benefits	\$4,949,139																		
Total Costs	\$2,108,726																		
UTC Benefit Cost Ratio	2.35																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$4,949,139																		
Total Costs	\$682,339																		
TIC Benefit Cost Ratio	7.26																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

INDUSTRIAL - DEMAND RESPONSE - PMAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

- User Input																				
PROJECT NAME: DEMAND RESPONSE PROGRAM NAME:		Amgen DR Participant Ind CPP with Enabling Tech																		
Firm Load Reduction? (Select from drop-down menu)		NO																		
New Program? (Select from drop-down menu)		YES																		
Load Shifting Program? (Select from drop-down menu)		YES																		
Number of Control Units Per Participant		1,654																		
If Existing Program - Total Number of Participants		2018																		
Start of Existing Program - Year		2018																		
Item	Year End	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Eligible Customers (From the Eligible Customers Tab)	Component of the	49	98	146	193	240	287	335	382	430	477	477	477	477	477	477	476	476	476	
Coincident Peak (CP) Load Per Eligible Customer (kW)		106.35																		
Coincident Peak Load Efficiency Gain (Near 20)		0%	2.00%	3.62%	5.06%	6.33%	7.64%	8.91%	10.17%	11.95%	12.58%	13.71%	14.80%	15.82%	16.79%	17.73%	18.73%	18.78%	18.77%	
Participant Incentive (\$/kW-Yr)																				
Program Participation Rate (From Market Adoption Curve Tab)	Calculate or Enter Participation Rate	97.9%	90.8%	78.2%	71.1%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	
Annual Number of Control Hours (If load shifting program, enter 0)		60																		
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																			
Program Savings Factor (Percent of CP Load)		21.5%																		
Per Participant CP Reduction (kW)																				
LOAD REDUCTION																				
Number of Program Participants		48	89	114	137	166	198	231	264	297	329	359	329	329	329	329	328	328	328	
Base Sector CP Demand (kW)		5,082	10,045	14,742	19,239	23,974	27,893	32,094	36,014	39,978	43,772	43,223	42,764	42,212	41,753	41,295	41,115	41,116	41,120	
Base Participant CP Demand (kW)		4,993	9,124	11,234	13,672	16,366	19,184	22,082	24,850	27,585	30,203	29,824	29,466	29,126	28,796	28,445	28,369	28,370	28,373	
Coincident Peak Demand Reduction (kW)		1,079	2,399	2,478	2,935	3,492	4,119	4,761	5,335	5,922	6,465	6,403	6,336	6,233	6,182	6,107	6,091	6,091	6,092	
Coincident Peak Demand Reduction@ Gen (kW)		1,127	2,058	2,600	3,085	3,870	4,338	4,982	5,607	6,224	6,814	6,729	6,648	6,572	6,497	6,418	6,401	6,401	6,402	
(\$/kW-Yr)		17.7																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$9,324,873	\$96,713	\$259,142	\$394,967	\$495,890	\$565,358	\$660,330	\$788,537	\$934,573	\$1,037,804	\$1,159,627	\$1,167,371	\$1,276,437	\$1,385,139	\$1,396,132	\$1,295,298	\$1,226,811	\$1,246,548	\$1,276,762
COSTS																				
Recently Installed Units (Includes replacement of units at end of useful life)	NPV	79	68	42	38	47	54	55	54	55	54	79	68	42	38	47	54	55	54	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																				
Utility/PA Per Unit Equipment Cost		\$636	\$629	\$641	\$654	\$667	\$681	\$694	\$708	\$722	\$737	\$751	\$766	\$782	\$797	\$813	\$830	\$846	\$863	
Utility/PA Per Unit Labor Cost		\$260	\$275	\$300	\$365	\$271	\$276	\$287	\$293	\$299	\$309	\$305	\$311	\$317	\$323	\$330	\$336	\$343	\$350	
Total Utility/PA Installed Equipment Cost Per Unit		\$896	\$904	\$941	\$1,019	\$938	\$967	\$997	\$1,001	\$1,036	\$1,046	\$1,066	\$1,077	\$1,099	\$1,121	\$1,143	\$1,166	\$1,189	\$1,213	
Variable Utility/PA Installed Equipment Cost		\$138,783	\$68,719	\$60,021	\$37,449	\$35,138	\$43,899	\$53,312	\$59,452	\$63,383	\$65,542	\$68,748	\$70,386	\$70,600	\$69,650	\$68,255	\$67,311	\$66,249	\$65,374	
Amortized Utility/PA Installed Equipment Cost		\$675,811	\$9,046	\$17,264	\$22,364	\$37,408	\$38,027	\$39,023	\$41,156	\$44,301	\$46,786	\$49,261	\$51,686	\$54,051	\$56,366	\$58,631	\$60,846	\$63,011	\$65,126	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																				
Participant Share of Installation Cost Per Unit - Equipment		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-Yr)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation, Admin, Marketing		\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,382	\$41,179	\$42,004	\$42,875	\$43,773	\$44,697	\$45,499	
OBM		\$2,077	\$3,931	\$5,144	\$6,312	\$7,766	\$9,472	\$11,277	\$13,117	\$15,060	\$17,040	\$17,381	\$17,729	\$18,083	\$18,445	\$18,814	\$19,189	\$19,569	\$19,949	
Fixed Program Costs		\$621,862	\$44,513	\$37,077	\$38,951	\$40,795	\$42,708	\$44,348	\$46,071	\$47,842	\$49,132	\$50,314	\$51,491	\$52,661	\$53,824	\$54,981	\$56,131	\$57,274	\$58,410	
Central Controller Software Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortization)		\$1,260,729	\$133,200	\$97,099	\$76,400	\$76,033	\$86,897	\$96,660	\$103,333	\$109,837	\$116,744	\$121,416	\$126,799	\$131,207	\$135,444	\$139,435	\$143,203	\$146,832	\$150,298	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$1,297,773	\$93,820	\$54,403	\$61,317	\$67,904	\$75,955	\$84,271	\$94,987	\$104,743	\$114,918	\$124,134	\$128,277	\$131,186	\$133,452	\$135,677	\$137,860	\$140,006	\$142,119	
TOTAL PROGRAM COSTS - TIC (No Amortization)		\$1,260,729	\$133,200	\$97,099	\$76,400	\$76,033	\$86,897	\$96,660	\$103,333	\$109,837	\$116,744	\$121,416	\$126,799	\$131,207	\$135,444	\$139,435	\$143,203	\$146,832	\$150,298	
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)		\$1,297,773	\$93,820	\$54,403	\$61,317	\$67,904	\$75,955	\$84,271	\$94,987	\$104,743	\$114,918	\$124,134	\$128,277	\$131,186	\$133,452	\$135,677	\$137,860	\$140,006	\$142,119	
UTILITY COST TEST																				
Total Benefits		\$9,124,077																		
Total Costs		\$1,260,729																		
UTC Benefit Cost Ratio		7.24																		
TOTAL RESOURCE COST TEST																				
Total Benefits		\$9,124,077																		
Total Costs		\$1,260,729																		
TIC Benefit Cost Ratio		7.24																		

4 CSR 240-22.050(4)(D); 4 CSR 240-22.050(4)(D)1; 4 CSR 240-22.050(4)(D)5A-5D; 4 CSR 240-22.050(4)(E); 4 CSR 240-22.050(5)

INDUSTRIAL - DEMAND RESPONSE - PMAP
(Demand, Incentives, Participant Cost, Utility Cost, # of Participants)

- User Input																				
PROJECT NAME:		Amgen DR Pilot/Industrial Critical Peak Pricing w/o Enabling Tech																		
DEMAND RESPONSE PROGRAM NAME:																				
Firm Load Reduction? (Select from drop-down menu)	NO																			
New Program? (Select from drop-down menu)	YES																			
Load Shifting Program? (Select from drop-down menu)	YES																			
Number of Control Units Per Participant	1																			
# of Existing Program - Year	2018																			
Item	2018	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	
Eligible Customers (From the Eligible Customers Tab)	362	726	1,102	1,476	1,840	2,199	2,564	2,920	3,284	3,660	3,959	4,267	4,583	4,908	5,242	5,585	5,937	6,298	6,667	
Coincident Peak (CP) Load Per Eligible Customer (kW)	106.35																			
Coincident Peak Load Efficiency Gain (Per 20)	0%	2.09%	3.62%	5.06%	6.33%	7.64%	8.91%	10.17%	11.95%	12.58%	13.71%	14.80%	15.82%	16.79%	17.73%	18.73%	18.78%	18.78%	18.77%	
Participant Incentive (\$/kW-Yr)																				
Program Participation Rate - Max Achievable (From Market Adoption Curve Tab)	97.4%	89.1%	73.9%	65.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	63.0%	
Annual Number of Control Hours (If load shifting program, enter 0)	60																			
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load																			
Program Savings Factor (Percent of CP Load)	11.3%																			
Per Participant CP Reduction (kW)																				
LOAD REDUCTION																				
Number of Program Participants	353	647	815	967	1,159	1,385	1,655	1,840	2,075	2,306	2,365	2,504	2,303	2,362	2,505	2,300	2,300	2,300	2,299	
Base Sector CP Demand (kW)	37,701	74,412	112,558	146,988	182,775	213,036	244,032	276,178	308,376	336,849	331,543	327,388	323,237	318,081	325,702	311,404	315,325	315,325	315,325	
Base Participant CP Demand (kW)	36,738	66,267	82,271	96,311	113,886	134,207	154,307	171,992	192,954	211,585	208,872	206,254	203,822	201,399	198,892	198,705	198,655	198,621	198,621	
Coincident Peak Demand Reduction (kW)	4,551	7,488	9,207	10,885	11,809	15,165	17,437	19,661	21,804	23,609	23,603	23,754	22,612	22,754	22,475	22,454	22,444	22,444	22,444	
Coincident Peak Demand Reduction@ Gen (kW)	4,363	7,069	8,709	11,459	13,324	15,937	18,334	20,661	22,913	25,125	24,803	24,492	24,203	23,914	23,618	23,590	23,590	23,590	23,586	
(\$/kW-Yr)																				
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$13,074,855	\$26,149,710	\$33,211,562	\$39,273,424	\$46,335,286	\$52,397,148	\$58,459,010	\$64,520,872	\$70,582,734	\$76,644,596	\$76,644,596	\$76,644,596	\$76,644,596	\$76,644,596	\$76,644,596	\$76,644,596	\$76,644,596	\$76,644,596	\$76,644,596	
COSTS																				
Realty Installed Units (Includes replacement of units at end of useful life)	353	294	168	153	192	226	230	230	230	230	230	230	0	0	0	0	0	0	0	
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																				
Utility/PA Per Unit Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Utility/PA Per Unit Labor Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Installed Equipment Cost Per Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Variable Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Amortized Utility/PA Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT																				
Participant Share of Installation Cost Per Unit - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Share Installation Cost Per Unit - Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Share of Per Unit Installed Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Participant Installed Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Utility/PA Contribution to Participant Equipment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Non-Equipment Participant Incentives (\$/kW-Yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Non-Equipment Program Incentive Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Implementation, Admin, Marketing	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499		
Fixed Program Costs	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
Central Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Central Controller Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL UTILITY COSTS (No Amortization)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
TOTAL PROGRAM COSTS - TIC (No Amortization)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
TOTAL PROGRAM COSTS - TIC (Amortized Installed Equipment Cost)	\$486,356	\$82,494	\$33,144	\$33,807	\$34,483	\$35,173	\$35,876	\$36,594	\$37,325	\$38,072	\$38,833	\$39,600	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	
UTILITY COST TEST																				
Total Benefits	\$13,074,855																			
Total Costs	\$486,356																			
TIC Benefits Cost Ratio	69.28																			
TOTAL RESOURCE COST TEST																				
Total Benefits	\$13,074,855																			
Total Costs	\$486,356																			
TIC Benefits Cost Ratio	69.28																			

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Compliance References

4 CSR 240-22.050(4)(D)	1-30
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4 CSR 240-22.050(4)(D)4	1-30
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