

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

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)

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

[illegible]

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																	
PROJECT NAME:		Residential DR Potential																	
DEMAND RESPONSE PROGRAM NAME:		Residential Critical Peak Pricing with Enroll																	
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)		1.0%																	
Number of Control Units Per Participant		2018																	
If Existing Program - Total Number of Participants		Year End																	
Age of Existing Program - Years		2019																	
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 Customer Tab)	Customers to be	91,144	182,644	274,442	366,501	458,828	551,124	643,943	736,771	829,808	923,055	1024,100	1025,145	926,190	927,236	928,281	929,326	930,371	931,416
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.61																	
Coincident Peak Load Efficiency Gain (Year 20)		0%	0.52%	1.25%	1.99%	2.82%	3.66%	4.40%	5.14%	5.88%	6.52%	7.10%	7.63%	8.11%	8.55%	8.96%	9.39%	9.78%	10.14%
Participant Incentive (\$/kW-Yr.)		50																	
Program Participation Rate (From Market Adoption Curve Tab)	Participation Rates	1.5%	6.6%	15.4%	28.5%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Annual Number of Control Hours		60																	
Type of Savings Factor (Select from drop-down menu)	Percent of CP Load	23.4%																	
Program Savings Factor (Percent of CP Load)		23.4%																	
Per Participant CP Reduction (kW)																			
LOAD REDUCTION																			
Number of Program Participants		1,404	12,055	42,264	74,986	105,942	121,291	141,667	162,090	182,558	203,072	203,302	203,532	203,762	203,992	204,222	204,452	204,682	204,912
Base Sector CP Demand (kW)		277,121	402,742	972,487	1,285,125	1,594,811	1,902,653	2,203,538	2,503,028	2,798,850	3,093,719	3,079,712	3,067,189	3,055,807	3,044,630	3,034,621	3,024,815	3,015,458	3,006,489
Base Participant CP Demand (kW)		5,038	42,949	149,455	262,936	300,867	418,354	484,864	550,666	615,747	680,618	677,539	674,781	672,297	670,036	667,617	665,481	663,421	661,850
Coincident Peak Demand Reduction (kW)		1,181	10,067	35,032	61,632	82,249	98,062	113,652	129,076	144,331	159,537	158,815	158,109	157,580	157,067	156,489	155,889	155,533	155,138
Coincident Peak Demand Reduction@ Gain (kW)		1,253	10,678	37,158	65,372	87,733	104,022	120,547	136,907	153,088	169,216	168,630	167,785	167,147	166,585	165,984	165,453	164,900	164,550
Net CP Demand		1,447,140	1,412,074	1,377,035	1,342,493	1,307,062	1,271,691	1,236,339	1,201,012	1,165,714	1,130,441	1,100,104	1,074,815	1,053,476	1,036,089	1,018,654	1,001,171	983,740	966,261
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$216,265,991	\$96,406	\$1,344,369	\$5,501,960	\$9,879,203	\$13,488,478	\$16,343,747	\$19,320,920	\$22,381,863	\$25,527,620	\$26,781,306	\$29,224,196	\$29,687,341	\$30,169,642	\$30,665,541	\$31,166,965	\$31,681,671	\$32,210,126
COSTS																			
Newly Installed Units (Includes replacement of units at end of useful life)		1537	15663	33079	35881	28422	22282	22312	22362	22413	22463	1789	11934	33331	36083	28674	22534	22564	22614
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
Utility/PA Per Unit Labor Cost		\$250	\$255	\$260	\$265	\$271	\$276	\$282	\$287	\$293	\$299	\$305	\$311	\$317	\$323	\$330	\$336	\$343	\$350
Total Utility/PA Installed Equipment Cost Per Unit		\$499	\$509	\$519	\$530	\$540	\$551	\$562	\$573	\$585	\$598	\$609	\$621	\$633	\$645	\$658	\$672	\$685	\$699
Variable Utility/PA Installed Equipment Cost		\$147,140.41	\$196,344	\$1,316,082	\$17,177,526	\$18,971,852	\$15,151,834	\$12,276,111	\$12,538,294	\$12,817,520	\$13,101,714	\$13,399,997	\$13,698,228	\$13,996,255	\$14,294,747	\$14,593,146	\$14,891,589	\$15,189,988	\$15,488,409
Amortized Utility/PA Installed Equipment Cost		\$155,688.381	\$100,218	\$802,218	\$1,213,300	\$1,761,492	\$1,813,031	\$1,461,194	\$1,171,441	\$1,187,721	\$1,461,264	\$1,464,139	\$1,467,032	\$1,470,007	\$1,473,024	\$1,476,081	\$1,479,186	\$1,482,340	\$1,485,537
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	\$24,581	\$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
Marketing		\$70,181	\$64,135	\$1,571,502	\$1,738,244	\$1,496,783	\$1,123,334	\$1,147,044	\$1,172,812	\$1,199,084	\$1,225,857	\$14,512	\$14,293	\$14,578	\$14,864	\$15,167	\$15,471	\$15,780	\$16,096
Evaluation		\$50,000	\$51,000	\$52,000	\$53,000	\$54,000	\$55,000	\$56,000	\$57,000	\$58,000	\$59,000	\$60,000	\$61,000	\$62,000	\$63,000	\$64,000	\$65,000	\$66,000	\$67,000
CRM		\$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
Plant Program Costs		\$55,307,953	\$276,364	\$24,597	\$2,746,710	\$1,799,381	\$4,210,090	\$4,545,320	\$5,102,275	\$5,802,414	\$6,651,560	\$7,360,719	\$8,186,407	\$8,676,367	\$9,049,427	\$9,405,967	\$9,746,890	\$10,076,198	\$10,399,394
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)		\$202,461,434	\$1,048,308	\$6,860,688	\$19,918,236	\$22,779,155	\$18,861,704	\$16,821,441	\$17,748,569	\$18,703,334	\$19,771,214	\$20,764,335	\$7,374,435	\$13,811,530	\$27,646,079	\$29,985,143	\$26,744,173	\$22,112,887	\$22,583,326
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$202,996,335	\$381,382	\$2,826,714	\$5,958,101	\$9,560,260	\$12,043,121	\$14,036,514	\$16,382,916	\$18,800,136	\$21,282,704	\$23,832,517	\$22,793,758	\$22,122,294	\$21,793,851	\$21,450,498	\$21,102,688	\$20,750,884	\$20,402,907
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$202,461,434	\$1,048,308	\$6,860,688	\$19,918,236	\$22,779,155	\$18,861,704	\$16,821,441	\$17,748,569	\$18,703,334	\$19,771,214	\$20,764,335	\$7,374,435	\$13,811,530	\$27,646,079	\$29,985,143	\$26,744,173	\$22,112,887	\$22,583,326
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)		\$210,996,335	\$381,382	\$2,826,714	\$5,958,101	\$9,560,260	\$12,043,121	\$14,036,514	\$16,382,916	\$18,800,136	\$21,282,704	\$23,832,517	\$22,793,758	\$22,122,294	\$21,793,851	\$21,450,498	\$21,102,688	\$20,750,884	\$20,402,907
UTILITY COST TEST																			
Total Benefits		\$216,203,991																	
Total Costs		\$202,461,434																	
NET Benefit Cost Ratio		1.07																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$216,203,991																	
Total Costs		\$202,461,434																	
NET Benefit Cost Ratio		1.07																	

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RESIDENTIAL - DEMAND RESPONSE - PRAP

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

= User Input																			
PROJECT NAME:		Residential Critical Peak Pricing without F																	
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)		1																	
Number of Control Units Per Participant																			
If Existing Program - Total Number of Participants																			
Age of Existing Program - Years																			
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 Customer Tab)		104,026	109,217	275,134	348,939	429,802	516,447	601,207	690,361	772,313	864,660	885,639	886,618	887,598	888,577	889,556	870,535	871,514	872,493
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.61																	
Coincident Peak Load Efficiency Gain (Year 20)		0%	0.52%	1.25%	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%
Participant Incentive (\$/kW-Yr.)		50																	
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%
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	10,360	32,748	55,570	73,066	87,796	102,545	117,327	132,143	146,992	147,159	147,326	147,492	147,658	147,825	147,991	148,157	148,324
Base Sector CP Demand (kW)		379,368	701,791	972,146	1,273,654	1,491,938	1,781,312	2,054,595	2,344,881	2,632,791	2,898,052	2,984,890	2,871,148	2,882,578	2,852,947	2,841,545	2,833,554	2,825,512	2,818,091
Base Participant CP Demand (kW)		1,804	36,199	115,804	193,431	251,973	302,823	350,866	398,596	445,704	492,660	490,431	488,435	486,638	485,011	483,250	481,704	480,357	479,076
Coincident Peak Demand Reduction (kW)		247	4,688	14,997	25,052	32,889	39,216	45,450	51,628	57,719	63,799	63,511	63,252	63,020	62,808	62,581	62,385	62,206	62,040
Coincident Peak Demand Reduction@ Gain (kW)		262	4,972	15,907	26,372	34,885	41,595	48,288	54,750	61,221	67,676	67,364	67,090	66,843	66,618	66,378	66,185	65,980	65,804
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
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TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,893	\$12,465,617	\$12,671,654	\$12,880,987
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$66,716,490	\$26,132	\$426,007	\$2,355,289	\$4,013,244	\$5,374,134	\$6,535,949	\$7,728,536	\$8,960,633	\$10,208,423	\$11,509,803	\$11,686,887	\$11,872,318	\$12,064,994	\$12,264,			

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

User Input	
PROJECT NAME: DEMAND RESPONSE PROGRAM NAME:	Ameren DR Potential Com Capacity Bidding
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 Age of Existing Program - Years	NO YES NO 1 2018
Item	1 2019 2 2020 3 2021 4 2022 5 2023 6 2024 7 2025 8 2026 9 2027 10 2028 11 2029 12 2030 13 2031 14 2032 15 2033 16 2034 17 2035 18 2036
Eligible Customers (From the Eligible Customers Tab)	CALCULATED BY THE 1,053 1,888 2,472 3,046 3,740 4,528 5,287 6,048 6,808 7,569 8,329 9,089 9,849 10,609 11,369 12,129 12,889 13,649 14,409 15,169 15,929 16,689 17,449 18,209 18,969
Coincident Peak (CP) Load Per Eligible Customer (kW)	221.05
Coincident Peak Load Efficiency Gain (Near 20)	1.00% 2.18% 3.49% 4.76% 5.87% 6.85% 7.80% 8.62% 9.46% 10.21% 10.89% 11.50% 12.05% 12.57% 13.05% 13.50% 13.92% 14.31% 14.68% 15.03% 15.36% 15.67% 15.96% 16.23% 16.49%
Participant Incentive (\$/kW-Yr.)	\$50.00
Program Participation Rate (From Market Adoption Curve Tab)	CALCULATED BY THE 0.1% 0.3% 0.7% 0.9% 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	1 6 17 28 37 45 53 60 68 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76
Base Sector CP Demand (kW)	221,669 408,190 527,316 641,269 778,205 932,354 1,077,511 1,222,378 1,362,432 1,502,398 1,642,025 1,482,842 1,476,777 1,471,956 1,467,300 1,465,054 1,464,751 1,464,815
Base Participant CP Demand (kW)	155 1,225 3,691 5,964 7,782 9,324 10,775 12,214 13,624 15,022 14,920 14,768 14,768 14,768 14,768 14,768 14,768 14,768
Coincident Peak Demand Reduction (kW)	30 239 720 1,163 1,517 1,818 2,101 2,382 2,657 2,929 3,009 3,057 3,059 3,056 3,054 3,051 3,047 3,043
Coincident Peak Demand Reduction@ Gen (kW)	32 251 756 1,222 1,595 1,911 2,208 2,503 2,792 3,079 3,057 3,059 3,056 3,054 3,051 3,047 3,043 3,040
US\$/kW-Yr	0.7
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$4,084,486 \$2,532 \$32,346 \$114,529 \$389,323 \$252,332 \$387,834 \$363,690 \$426,718 \$478,863 \$540,892 \$548,409 \$554,763 \$563,881 \$575,577 \$586,065 \$596,013 \$610,326 \$623,062
COSTS	NPV
Number of Installed Units (Includes replacement of units at end of useful life)	1 5 12 11 9 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 \$1,139 \$1,140 \$1,141 \$1,142 \$1,143 \$1,144 \$1,145 \$1,146 \$1,147 \$1,148 \$1,149 \$1,150 \$1,151 \$1,152
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	\$1,132 \$1,135 \$1,137 \$1,138 \$1,139 \$1,140 \$1,141 \$1,142 \$1,143 \$1,144 \$1,145 \$1,146 \$1,147 \$1,148 \$1,149 \$1,150 \$1,151 \$1,152
Variable Utility/PA Installed Equipment Cost	\$71,180 \$789 \$5,622 \$11,470 \$13,039 \$16,922 \$19,681 \$23,336 \$26,917 \$30,507 \$34,097 \$37,687 \$41,277 \$44,867 \$48,457 \$52,047 \$55,637 \$59,227
Amortized Utility/PA Installed Equipment Cost	\$75,266 \$68 \$596 \$1,706 \$2,422 \$3,759 \$4,588 \$5,405 \$6,218 \$7,036 \$7,854 \$8,671 \$9,489 \$10,306 \$11,124 \$11,941 \$12,759 \$13,576
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.)	\$10 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50
\$/kW	5% \$602 \$1,815 \$2,933 \$3,827 \$4,585 \$5,299 \$6,007 \$6,700 \$7,388 \$8,076 \$8,764 \$9,452 \$10,140 \$10,828 \$11,516 \$12,204 \$12,892
Total Non-Equipment Program Incentive Costs	\$1,203,552 \$1,696.16 \$13,349.07 \$39,631.33 \$64,041.96 \$89,361.30 \$100,113.46 \$115,699.94 \$131,147.91 \$146,293.84 \$161,301.58 \$166,230.35 \$176,233.25 \$186,571.98 \$196,054.25 \$205,577.56 \$215,107.21 \$224,637.49
Implementation, Admin, Marketing	\$132,849 \$15,671 \$39,861 \$40,134 \$40,082 \$40,237 \$40,866 \$41,693 \$42,525 \$43,357 \$44,189 \$45,021 \$45,853 \$46,685 \$47,517 \$48,349 \$49,181 \$50,013
Total Program Costs	\$568,349 \$132,849 \$15,671 \$39,861 \$40,134 \$40,082 \$40,237 \$40,866 \$41,693 \$42,525 \$43,357 \$44,189 \$45,021 \$45,853 \$46,685 \$47,517 \$48,349 \$49,181
Central Controller Software Costs	\$2,308 \$2,500 \$2,601 \$2,658 \$2,706 \$2,760 \$2,815 \$2,872 \$2,929 \$2,986 \$3,047 \$3,108 \$3,171 \$3,234 \$3,299 \$3,365 \$3,432 \$3,501
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
Central Controller Costs	\$55,185 \$15,000 \$24,950 \$24,601 \$24,658 \$24,706 \$24,760 \$24,815 \$24,872 \$24,929 \$24,986 \$25,047 \$25,108 \$25,171 \$25,234 \$25,299 \$25,365 \$25,432
TOTAL UTILITY COSTS (No Amortization)	\$1,896,266 \$196,304 \$166,998 \$196,864 \$230,048 \$237,271 \$252,782 \$268,888 \$285,439 \$302,464 \$317,801 \$325,464 \$333,129 \$340,794 \$348,459 \$356,124 \$363,789 \$371,454
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,900,352 \$148,582 \$151,920 \$182,799 \$199,851 \$216,108 \$232,660 \$249,417 \$266,385 \$283,562 \$298,949 \$313,536 \$328,323 \$343,310 \$358,497 \$373,884 \$389,471 \$405,258
TOTAL PROGRAM COSTS - INC (No Amortization)	\$682,714 \$448,637 \$443,843 \$555,933 \$566,006 \$581,720 \$592,669 \$608,188 \$623,451 \$638,464 \$653,217 \$667,714 \$681,957 \$695,944 \$709,675 \$723,150 \$736,371 \$749,338
TOTAL PROGRAM COSTS - INC (Amortized Installed Equipment Cost)	\$682,389 \$447,316 \$442,522 \$554,612 \$564,685 \$580,399 \$591,348 \$606,867 \$622,130 \$637,143 \$651,896 \$666,393 \$680,636 \$694,623 \$708,354 \$721,829 \$735,050 \$748,017
UTILITY COST TEST	
Total Benefits	\$4,084,486
Total Costs	\$1,896,266
UTC Benefit Cost Ratio	2.15
NET RESOURCE COST TEST	
Total Benefits	\$4,084,486
Total Costs	\$612,714
UTC Benefit Cost Ratio	6.67

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)

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

[illegible]

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:	Ameren DR Prap																	
DEMAND RESPONSE PROGRAM NAME:	Com CPP rate w/o 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																	
Age of Existing Program - Years	1																	
Item	2019	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Eligible Customers (From the Eligible Customers Tab)	115,630	10,344	42,668	55,263	68,670	82,953	96,831	110,727	124,636	138,561	152,637	166,714	180,790	194,866	208,943	223,020	237,096	251,173
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%	8.62%	9.46%	10.21%	10.89%	11.50%	11.93%	12.27%	12.62%	12.78%	12.93%
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	19,911	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)	201,113	338,235	751,382	856,230	1,174,357	1,403,789	1,621,869	1,840,008	2,058,147	2,276,199	2,494,345	2,712,132	2,930,707	3,149,154	3,367,628	3,586,134	3,804,669	4,023,234
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	443,964	481,424	519,277	557,496	596,038	634,962	674,269	713,951
Coincident Peak Demand Reduction (kW)	480	3,260	10,701	18,088	23,885	28,553	32,991	37,385	41,700	45,971	50,168	54,361	58,569	62,816	67,116	71,464	75,864	80,316
Coincident Peak Demand Reduction@ Gen (kW)	421	3,458	11,245	19,088	25,351	30,005	34,659	39,307	43,821	48,309	52,770	57,209	61,668	66,156	70,684	75,264	79,894	84,574
US\$100/kWh																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$61,918,195	\$52,374	\$425,335	\$1,665,099	\$2,870,824	\$3,864,928	\$4,724,849	\$5,565,594	\$6,422,642	\$7,307,260	\$8,216,793	\$9,152,180	\$10,114,244	\$11,102,866	\$12,118,046	\$13,160,896	\$14,231,521	\$15,339,925
COSTS																		
RPV	197	1442	3763	3850	3110	2571	2498	2501	2604	2506	14	14	14	14	14	14	14	14
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																		
Needs Installed Units (Includes replacement of units at end of useful life)	197	1442	3763	3850	3110	2571	2498	2501	2604	2506	14	14	14	14	14	14	14	14
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 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)																		
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
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
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)																		
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
TOTAL PROGRAM COSTS - TRC (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
TOTAL PROGRAM COSTS - TRC (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
UTILITY COST TEST																		
Total Benefits	\$61,918,195																	
Total Costs	\$1,991,195																	
TRC Benefit Cost Ratio	\$1.10																	
TOTAL RESOURCE COST TEST																		
Total Benefits	\$61,918,195																	
Total Costs	\$1,991,195																	
TRC 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)

COMMERCIAL - DEMAND RESPONSE - PRAP

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

PROJECT NAME:

DEMAND RESPONSE PROGRAM NAME:

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

Age of Existing Program - Years

Ameren DR Prap
Com Demand Bidding (Thermostat Scenario)

NO
YES
NO

1

2018

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)

Consensus by the

20.12

0% 1.00% 2.18% 3.49% 4.76% 5.87% 6.85% 7.80% 8.62% 9.46% 10.21% 10.89% 11.50% 11.93% 12.27% 12.62% 12.78% 12.89% 12.93%

Participant Incentive (\$/kW-Yr)

Consensus by DR Participant Rates

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)

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
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)	14,423	26,826	35,007	42,382	52,388	63,516	74,143	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 (Hr 20)	0%	1.00%	2.18%	3.49%	4.76%	5.87%	6.85%	7.80%	8.62%	9.46%	10.21%	10.89%	11.50%	11.93%	12.27%	12.62%	12.78%	12.89%
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%
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	1,061	1,062	1,063	1,064	1,064	1,064	1,065	1,065
Base Sector CP Demand (kW)	207,327	328,020	678,919	823,766	996,137	1,190,559	1,376,897	1,558,788	1,738,687	1,916,744	1,992,364	1,992,360	1,992,364	1,992,364	1,992,364	1,992,364	1,992,364	1,992,364
Base Participant CP Demand (kW)	201	1,584	4,759	7,661	9,961	11,906	13,756	15,588	17,387	19,167	19,933	19,933	19,933	19,933	19,933	19,933	19,933	19,933
Coincident Peak Demand Reduction (kW)	14	111	333	536	697	873	1,053	1,237	1,422	1,607	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792
Coincident Peak Demand Reduction@ 20% (kW)	15	117	360	564	733	926	1,122	1,327	1,532	1,737	1,942	1,942	1,942	1,942	1,942	1,942	1,942	1,942
15,411.15																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$1,871,758	\$1,176	\$15,630	\$53,008	\$87,298	\$115,948	\$141,307	\$166,672	\$192,740	\$218,972	\$247,740	\$265,124	\$283,962	\$298,133	\$302,533	\$308,172	\$313,602	\$319,195
COSTS	NPV																	
Ready 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
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 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	\$0.00	\$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 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)	\$0.5	\$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	\$0.02	\$4,661	\$14,002	\$22,542	\$28,333	\$35,031	\$40,476	\$45,866	\$51,199	\$56,399	\$56,002	\$55,649	\$55,213	\$55,224	\$55,085	\$54,962	\$54,837
Implementation, Admin, Marketing	\$132,999	\$36,793	\$42,368	\$42,690	\$42,000	\$41,809	\$42,577	\$41,435	\$44,310	\$45,203	\$39,646	\$40,438	\$41,246	\$42,072	\$42,913	\$43,771	\$44,647	\$45,539
Fraud Program Costs	\$581,164	\$132,999	\$36,793	\$42,368	\$42,690	\$42,000	\$41,809	\$42,577	\$41,435	\$44,310	\$45,203	\$39,646	\$40,438	\$41,246	\$42,072	\$42,913	\$43,771	\$44,647
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
Central Controller Hardware Costs	\$12,500																	
Central Controller Costs	\$55,185	\$15,500	\$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 Amortization)	\$1,055,450	\$48,391	\$43,944	\$38,971	\$37,885	\$34,817	\$29,700	\$25,868	\$22,171	\$18,399	\$104,590	\$111,195	\$98,195	\$99,890	\$100,529	\$101,247	\$102,098	\$103,001
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,055,450	\$48,391	\$43,944	\$38,971	\$37,885	\$34,817	\$29,700	\$25,868	\$22,171	\$18,399	\$104,590	\$111,195	\$98,195	\$99,890	\$100,529	\$101,247	\$102,098	\$103,001
TOTAL PROGRAM COSTS - TRC (No Amortization)	\$634,349	\$147,399	\$39,283	\$44,969	\$46,343	\$44,706	\$44,669	\$46,392	\$46,307	\$47,239	\$48,191	\$55,193	\$43,546	\$44,417	\$45,306	\$46,211	\$47,136	\$48,079
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)	\$634,349	\$147,399	\$39,283	\$44,969	\$46,343	\$44,706	\$44,669	\$46,392	\$46,307	\$47,239	\$48,191	\$55,193	\$43,546	\$44,417	\$45,306	\$46,211	\$47,136	\$48,079
UTILITY COST TEST																		
Total Benefits	\$1,871,758																	
Total Costs	\$1,055,450																	
TRC Benefit Cost Ratio	1.79																	
TOTAL RESOURCE COST TEST																		
Total Benefits	\$1,871,758																	
Total Costs	\$634,349																	
TRC Benefit 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)

[illegible]

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:		American DR Potential 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																	
Age of Existing Program - Years		1																	
Item	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Item	Year	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)	Calculated by the	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)		\$14.54																	
Coincident Peak Load Efficiency Gain (Hour 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%	12.80%	13.04%
Participant Incentive (\$/kW-Yr.)		\$50.00																	
Program Participation Rate (From Market Adoption Curve Tab)	Calculated by the	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%
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
Base Sector CP Demand (kW)		71,390	134,533	182,313	227,696	276,263	328,564	380,549	430,405	479,325	526,534	572,973	618,735	663,810	708,197	751,907	795,345	838,508	880,388
Base Participant CP Demand (kW)		50	404	1,276	2,116	2,763	3,286	3,801	4,304	4,795	5,285	5,740	6,191	6,638	7,081	7,519	7,952	8,380	8,804
Coincident Peak Demand Reduction (kW)		10	79	249	433	559	641	741	839	935	1,031	1,122	1,208	1,289	1,365	1,437	1,505	1,569	1,628
Coincident Peak Demand Reduction@ Gen (kW)		10	83	262	454	586	673	779	882	983	1,083	1,179	1,270	1,356	1,437	1,513	1,585	1,653	1,718
USDA 112		1,171																	
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$1,427,853	\$615	\$10,642	\$39,401	\$67,360	\$98,578	\$108,481	\$128,313	\$148,257	\$168,342	\$188,508	\$192,590	\$198,216	\$196,632	\$199,140	\$202,487	\$206,197	\$210,211
COSTS																			
RPV		0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
Equipment that will be directly installed and owned by utility or PA		\$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 Equipment 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		\$11,812	\$120	\$875	\$2,214	\$2,235	\$1,801	\$1,536	\$1,368	\$1,181	\$1,013	\$1,861	\$1	\$1	\$1	\$2	\$3	\$3	\$1
Amortized Utility/PA Installed Equipment Cost		\$12,306	\$120	\$961	\$2,214	\$2,235	\$1,801	\$1,536	\$1,368	\$1,181	\$1,013	\$1,861	\$1,861	\$1,861	\$1,861	\$1,861	\$1,861	\$1,861	\$1,861
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	\$0.00	\$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 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.)		\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50
Incentives (\$/kW)		\$25	\$199	\$628	\$1,041	\$1,359	\$1,616	\$1,870	\$2,117	\$2,358	\$2,599	\$2,837	\$3,073	\$3,303	\$3,528	\$3,749	\$3,965	\$4,177	\$4,385
Total Non-Equipment Program Incentive Costs		\$420,796	\$136.80	\$4,384.39	\$18,703.19	\$22,737.88	\$29,864.31	\$35,280.19	\$40,819.27	\$46,215.12	\$51,489.96	\$56,792.41	\$62,062.62	\$67,314.14	\$72,559.91	\$77,804.74	\$83,057.09	\$88,316.44	\$93,582.55
Implementation, Admin, Marketing		\$132,535	\$13,443	\$34,571	\$55,247	\$76,788	\$98,398	\$120,129	\$137,866	\$158,633	\$183,401	\$209,630	\$240,402	\$271,111	\$302,095	\$333,476	\$365,353	\$397,826	\$430,898
Total Program Costs		\$540,333	\$132,535	\$13,443	\$34,571	\$55,247	\$76,788	\$98,398	\$120,129	\$137,866	\$158,633	\$183,401	\$209,630	\$240,402	\$271,111	\$302,095	\$333,476	\$365,353	\$397,826
Control Controller Software Costs		\$2,308	\$2,550	\$2,601	\$2,658	\$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
Control Controller Hardware Costs		\$12,500																	
Control Controller Costs		\$15,185	\$15,050	\$15,950	\$2,601	\$2,658	\$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)		\$1,029,947	\$148,232	\$41,208	\$93,309	\$162,853	\$268,960	\$375,864	\$482,329	\$588,534	\$694,685	\$800,803	\$911,421	\$999,254	\$1,099,778	\$1,190,346	\$1,280,613	\$1,370,282	\$1,459,139
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$1,026,621	\$148,082	\$40,413	\$91,152	\$161,087	\$267,782	\$374,192	\$480,652	\$587,377	\$693,205	\$800,046	\$911,275	\$1,000,559	\$1,090,982	\$1,181,449	\$1,271,917	\$1,362,266	\$1,452,464
TOTAL PROGRAM COSTS - INC (No Amortization)		\$605,151	\$147,655	\$38,868	\$89,406	\$160,255	\$266,295	\$372,684	\$479,129	\$585,733	\$692,401	\$800,046	\$911,421	\$999,254	\$1,099,778	\$1,190,346	\$1,280,613	\$1,370,282	\$1,459,139
TOTAL PROGRAM COSTS - INC (Amortized Installed Equipment Cost)		\$604,007	\$147,545	\$38,679	\$87,489	\$158,369	\$265,118	\$371,912	\$478,613	\$585,262	\$691,755	\$799,004	\$910,481	\$998,314	\$1,098,686	\$1,189,154	\$1,279,421	\$1,369,089	\$1,458,380
UTILITY COST TEST																			
Total Benefits		\$1,427,853																	
Total Costs		\$1,025,904																	
UTC Benefit Cost Ratio		1.39																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$1,427,853																	
Total Costs		\$609,110																	
TRC 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																		
PROJECT NAME:	Ameren DR Potential																	
DEMAND RESPONSE PROGRAM NAME:	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																	
Age of Existing Program - Years	Year End																	
Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Eligible Customers (From the Eligible Customers Tab)	82	83	243	322	400	478	558	637	716	796	796	795	795	794	795	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%	12.80%	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	80	80	86	112	127	143	159	159	159	159	159	159	159	159	159
Base Sector CP Demand (kW)	8,562	17,023	25,538	32,953	40,154	48,013	55,323	62,820	69,953	77,086	76,419	75,586	75,075	74,495	73,802	73,556	73,428	73,406
Base Participant CP Demand (kW)	121	1,021	3,515	6,129	8,111	9,603	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	755	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	3,151	3,152
Coincident Peak Demand Reduction@ Gen (kW)	27	220	793	1,383	1,830	2,167	2,505	2,835	3,157	3,479	3,448	3,415	3,388	3,362	3,330	3,319	3,313	3,312
15MW115	0.7																	
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$4,429,879	\$2,301	\$29,813	\$117,480	\$208,858	\$281,854	\$340,487	\$401,542	\$463,420	\$526,360	\$581,652	\$638,245	\$694,361	\$751,470	\$808,882	\$865,373	\$920,765	\$974,335
COSTS																		
RPV	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	\$266	\$275	\$280	\$285	\$291	\$297	\$303	\$307	\$313	\$319	\$325	\$331	\$337	\$343	\$349	\$356	\$363	\$370
Total Utility/PA Installed Equipment Cost Per Unit	\$884	\$884	\$901	\$939	\$958	\$978	\$997	\$1,015	\$1,035	\$1,055	\$1,076	\$1,097	\$1,119	\$1,141	\$1,161	\$1,186	\$1,209	\$1,233
Variable Utility/PA Installed Equipment Cost	\$391,881	\$1,645	\$12,638	\$36,142	\$59,346	\$11,332	\$28,481	\$51,822	\$76,010	\$101,530	\$127,403	\$153,881	\$180,965	\$207,961	\$234,961	\$261,961	\$288,961	\$315,961
Amortized Utility/PA Installed Equipment Cost	\$19,612	\$511	\$1,500	\$4,784	\$12,079	\$16,277	\$19,599	\$23,074	\$26,575	\$30,145	\$33,681	\$37,193	\$40,681	\$44,149	\$47,596	\$51,023	\$54,431	\$57,823
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
Participant Share Installation Cost Per Unit - Labor		\$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	\$0.00	\$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	\$0.00	\$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 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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implementation, Admin, Marketing	\$82,551	\$11,984	\$35,068	\$35,856	\$36,261	\$36,737	\$37,494	\$38,233	\$38,998	\$39,780	\$39,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499
OB&M	\$50	\$432	\$1,533	\$2,753	\$3,751	\$4,573	\$5,445	\$6,340	\$7,269	\$8,242	\$8,407	\$8,565	\$8,736	\$8,911	\$9,077	\$9,259	\$9,444	\$9,633
Total Program Costs	\$555,131	\$41,691	\$14,031	\$36,601	\$38,609	\$40,023	\$41,330	\$42,399	\$44,573	\$46,356	\$48,132	\$49,917	\$51,707	\$53,500	\$55,296	\$57,093	\$58,891	\$60,693
Control/Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Control/Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Control/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)	\$857,093	\$84,246	\$46,634	\$72,743	\$77,353	\$71,204	\$66,393	\$68,761	\$70,582	\$72,796	\$75,433	\$78,003	\$80,584	\$83,169	\$85,750	\$88,329	\$90,908	\$93,488
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$874,543	\$82,823	\$35,930	\$43,385	\$50,688	\$56,289	\$60,909	\$66,013	\$71,147	\$76,411	\$81,865	\$87,499	\$93,223	\$99,043	\$104,961	\$110,879	\$116,797	\$122,715
TOTAL PROGRAM COSTS - INC (No Amortization)	\$857,093	\$84,246	\$46,634	\$72,743	\$77,353	\$71,204	\$66,393	\$68,761	\$70,582	\$72,796	\$75,433	\$78,003	\$80,584	\$83,169	\$85,750	\$88,329	\$90,908	\$93,488
TOTAL PROGRAM COSTS - INC (Amortized Installed Equipment Cost)	\$874,543	\$82,823	\$35,930	\$43,385	\$50,688	\$56,289	\$60,909	\$66,013	\$71,147	\$76,411	\$81,865	\$87,499	\$93,223	\$99,043	\$104,961	\$110,879	\$116,797	\$122,715
UTILITY COST TEST																		
Total Benefits	\$4,429,879																	
Total Costs	\$857,093																	
UTC Benefit Cost Ratio	5.17																	
TOTAL RESOURCE COST TEST																		
Total Benefits	\$4,429,879																	
Total Costs	\$857,093																	
TRC Benefit Cost Ratio	5.17																	

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)

PROJECT NAME:

DEMAND RESPONSE PROGRAM NAME:

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

Age of Existing Program - Years

• User Input

Amortize OR Prioritize
Ind Critical Peak Pricing w/o Enabling Tech

NO
YES
YES

1
2018

Year End

Item	1 2019	2 2020	3 2021	4 2022	5 2023	6 2024	7 2025	8 2026	9 2027	10 2028	11 2029	12 2030	13 2031	14 2032	15 2033	16 2034	17 2035	18 2036
Eligible Customers (From the Eligible Customers Tab)	409	805	1,182	1,553	1,936	2,301	2,683	3,066	3,448	3,830	3,829	3,827	3,826	3,824	3,823	3,821	3,820	3,819
Coincident Peak (CP) Load Per Eligible Customer (kW)	106.35																	
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%	12.80%	13.04%
Participant Incentive (\$/kW-Yr)																		
Program Participation Rate - Max Achievable (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

	5	43	149	260	347	414	483	552	621	689	689	689	689	688	688	688	688	687	
Base Sector CP Demand (kW)	43,081	84,093	122,136	158,842	193,270	229,166	267,230	302,125	336,848	370,895	397,379	394,142	391,395	388,327	385,559	383,095	380,988	379,088	
Base Participant CP Demand (kW)	543	4,541	15,388	26,607	35,149	41,610	48,062	54,418	60,633	66,761	66,164	65,582	65,035	64,499	63,965	63,719	63,592	63,556	
Coincident Peak Demand Reduction (kW)	61	513	1,739	3,007	3,972	4,702	5,431	6,149	6,853	7,544	7,477	7,411	7,349	7,288	7,228	7,200	7,185	7,182	
Coincident Peak Demand Reduction@ 60m (kW)	64	539	1,827	3,159	4,174	4,941	5,707	6,462	7,200	7,928	7,857	7,788	7,723	7,659	7,596	7,566	7,551	7,547	
15MW125																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$10,101,356	\$4,462	\$67,890	\$270,565	\$477,185	\$642,985	\$776,408	\$914,730	\$1,054,428	\$1,209,406	\$1,348,399	\$1,363,608	\$1,378,087	\$1,393,932	\$1,410,092	\$1,426,378	\$1,443,332	\$1,475,336	\$1,504,008

COSTS

	5	38	105	111	87	68	69	69	69	69	69	69	69	69	69	69	69	69
Ready 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
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 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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implementation, Admin, Marketing	\$91,494	\$35,099	\$39,292	\$40,176	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$42,942	\$39,630	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607
Fixed Program Costs	\$528,102	\$91,494	\$35,099	\$39,292	\$40,176	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$39,630	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607
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)	\$528,102	\$91,494	\$35,099	\$39,292	\$40,176	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$39,630	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$528,102	\$91,494	\$35,099	\$39,292	\$40,176	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$39,630	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607
TOTAL PROGRAM COSTS - TRC (No Amortization)	\$528,102	\$91,494	\$35,099	\$39,292	\$40,176	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$39,630	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)	\$528,102	\$91,494	\$35,099	\$39,292	\$40,176	\$39,864	\$39,606	\$40,465	\$41,277	\$42,102	\$42,942	\$39,630	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607

UTILITY COST TEST

Total Benefits	\$10,101,356
Total Costs	\$528,102
TRC Benefit Cost Ratio	19.13

TOTAL RESOURCE COST TEST

Total Benefits	\$10,101,356
Total Costs	\$528,102
TRC Benefit 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)

Page 13

2017 Integrated Resource Plan

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

User Input																			
PROJECT NAME:	Ameren DR Pilot/Industrial Intermittent Rate																		
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 - Years																			
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)	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 (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%	12.80%	13.04%	13.07%
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%	
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	61,357	55,688	47,757	43,707	59,814	69,159	74,495	87,582	96,496	85,713	84,767	94,058	91,443	82,794	92,597	92,491	82,158	
Base Participant CP Demand (kW)	72	493	1,045	1,190	1,332	1,693	1,815	2,104	2,347	2,586	2,565	2,540	2,521	2,504	2,487	2,482	2,479	2,479	
Coincident Peak Demand Reduction (kW)	8	58	123	140	157	188	218	247	276	304	302	298	296	294	292	291	291	291	
Coincident Peak Demand Reduction@ 6am (kW)	9	61	129	147	164	198	229	260	290	319	317	314	311	309	307	306	305	305	
15MW/15	7.7																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$435,171	\$70%	\$7,850	\$19,531	\$22,754	\$26,624	\$31,887	\$37,712	\$43,657	\$49,703	\$56,100	\$56,804	\$57,245	\$57,989	\$58,792	\$59,842	\$61,005	\$62,226	\$63,548
COSTS																			
RDV	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 of 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 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 (\$/MW-Yr.)	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	
Total Non-Equipment Program Incentive Costs	\$98,776	\$184.06	\$2,496.12	\$5,159.07	\$5,875.62	\$6,738.57	\$7,916.15	\$9,158.31	\$10,388.50	\$11,591.18	\$12,770.95	\$12,867.62	\$12,942.18	\$12,948.30	\$12,966.91	\$12,981.81	\$12,994.88	\$12,994.88	
Implementation, Admin, Marketing	\$57,597	\$11,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,090	\$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	\$11,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,090	\$37,793	\$38,549	\$39,318	\$39,613	\$40,402	\$41,213	\$42,041	\$42,881	\$43,739	\$44,611	\$45,503
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	\$57,951	\$36,204	\$39,814	\$40,802	\$41,999	\$44,263	\$46,208	\$48,182	\$50,140	\$52,089	\$52,281	\$52,944	\$53,662	\$54,408	\$55,182	\$55,994	\$56,851	\$57,747
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$563,591	\$57,951	\$36,204	\$39,814	\$40,802	\$41,999	\$44,263	\$46,208	\$48,182	\$50,140	\$52,089	\$52,281	\$52,944	\$53,662	\$54,408	\$55,182	\$55,994	\$56,851	\$57,747
TOTAL PROGRAM COSTS - TRC (No Amortization)	\$464,815	\$57,597	\$11,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,090	\$37,793	\$38,549	\$39,318	\$39,613	\$40,402	\$41,213	\$42,041	\$42,881	\$43,739	\$44,611	\$45,503
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)	\$464,815	\$57,597	\$11,768	\$34,655	\$34,726	\$35,420	\$36,347	\$37,090	\$37,793	\$38,549	\$39,318	\$39,613	\$40,402	\$41,213	\$42,041	\$42,881	\$43,739	\$44,611	\$45,503
UTILITY COST TEST																			
Total Benefits	\$435,171																		
Total Costs	\$563,591																		
TRC Benefit Cost Ratio	0.77																		
TOTAL RESOURCE COST TEST																			
Total Benefits	\$435,171																		
Total Costs	\$464,815																		
TRC Benefit 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 DR Potential																	
DEMAND RESPONSE PROGRAM NAME:		Residential D.C. Central AC																	
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)		NO																	
Number of Control Units Per Participant		1																	
If Existing Program - Total Number of Participants		2018																	
Age of Existing Program - Year		Year End																	
Item		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Eligible Customers (From the Eligible Customer Tab)		854,618	755,585	666,187	577,811	485,850	390,106	294,253	198,380	101,888	5,378	5,385	5,391	5,396	5,402	5,409	5,414	5,420	5,426
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%	5.72%	6.70%	7.67%	8.63%	9.58%	10.40%	11.37%	12.22%	13.05%	13.87%	14.62%	15.36%
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%
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		18,545	70,269	144,563	166,583	250,552	120,913	91,218	61,496	31,585	1,667	1,669	1,671	1,673	1,675	1,677	1,678	1,680	1,682
Base Sector CP Demand (kW)		1,058,548	2,489,293	2,944,827	2,020,762	1,470,352	1,227,128	990,477	602,285	335,874	17,544	17,391	17,239	17,089	16,944	16,800	16,678	16,553	16,429
Base Participant CP Demand (kW)		66,587	250,104	508,827	579,700	517,871	411,409	307,048	204,657	104,121	5,439	5,391	5,344	5,298	5,253	5,210	5,170	5,131	5,093
Coincident Peak Demand Reduction (kW)		19,545	73,450	149,050	170,153	152,680	120,756	100,124	60,071	30,561	1,596	1,592	1,589	1,586	1,582	1,579	1,578	1,566	1,495
Coincident Peak Demand Reduction% Gain (kW)		20.73%	77.86%	156.41%	180.47%	160.227	128.083	95.362	63.715	35.405	1.693	1.678	1.664	1.649	1.635	1.622	1.610	1.598	1.586
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$151,246,476	\$1,895,758	\$11,376,541	\$27,246,474	\$31,808,330	\$26,807,219	\$24,477,606	\$17,907,801	\$12,585,577	\$6,322,893	\$338,168	\$342,154	\$345,304	\$349,336	\$353,468	\$359,549	\$364,028	\$368,893
COSTS																			
Newly Installed Units (Include replacement of units at end of useful life)		18545	51724	74293	22022	0	0	0	0	0	0	0	18547	15776	74295	22022	2	2	2
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																			
Utility/PA Per Unit Equipment Cost		\$70	\$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	\$204	\$201	\$212	\$216	\$221	\$219	\$218	\$219	\$214	\$219	\$214	\$219	\$214	\$214	\$219	\$219
Total Utility/PA Installed Equipment Cost Per Unit		\$270	\$275	\$275	\$281	\$287	\$292	\$298	\$304	\$304	\$303	\$303	\$303	\$303	\$303	\$303	\$303	\$303	\$303
Variable Utility/PA Installed Equipment Cost		\$171,086,129	\$1,807,205	\$14,244,848	\$20,869,559	\$4,306,390	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortized Utility/PA Installed Equipment Cost		\$76,055,524	\$679,887	\$2,391,698	\$5,399,705	\$6,248,845	\$6,248,845	\$6,248,845	\$6,248,845	\$6,248,845	\$6,248,845	\$6,396,118	\$6,416,499	\$6,431,461	\$6,441,461	\$6,441,461	\$6,441,461	\$6,441,461	\$6,441,461
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	\$0.00	\$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 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.)		\$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	\$1,930,463.13	\$1,930,896.47	\$4,152,711.10	\$4,114,574.79	\$3,305,081.84	\$2,492,996.04	\$1,679,042.62	\$863,227.54	\$45,563.11	\$45,621.91	\$45,672.05	\$45,715.23	\$45,765.37	\$45,813.97	\$45,872.32	\$45,922.85
Program Development		\$80,000																	
Consulting		\$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
Marketing		\$127,260	\$2,637,315	\$1,864,713	\$1,168,406	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$131	\$100	\$119	\$141	\$120	\$136	\$128
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		\$0,481,378	\$1,122,023	\$2,754,993	\$1,984,112	\$1,290,193	\$124,223	\$126,708	\$129,242	\$131,827	\$134,463	\$137,152	\$140,006	\$142,807	\$145,647	\$148,577	\$151,598	\$154,676	\$157,871
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 Costs		\$25,000																	
Central Controller Costs		\$106,370	\$10,000	\$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)		\$100,605,590	\$4,666,269	\$18,392,464	\$28,809,787	\$12,157,409	\$4,344,250	\$1,637,120	\$1,627,869	\$1,616,613	\$1,601,549	\$1,618,091	\$6,121,204	\$17,355,702	\$25,638,117	\$7,892,562	\$204,754	\$207,626	\$211,138
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$106,776,386	\$4,330,751	\$7,271,564	\$13,379,936	\$12,297,055	\$18,493,655	\$9,686,165	\$6,876,754	\$4,805,618	\$7,252,394	\$6,457,356	\$6,613,361	\$7,611,136	\$7,620,305	\$7,618,654	\$7,621,797	\$7,625,021	\$7,628,388
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$81,473,877	\$6,139,229	\$17,804,941	\$24,858,890	\$7,649,889	\$12,929,055	\$13,228,228	\$13,870,737	\$13,737,370	\$14,632,121	\$14,828,128	\$6,275,582	\$17,514,830	\$25,592,402	\$7,846,797	\$558,930	\$161,953	\$165,215
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)		\$85,648,212	\$1,820,619	\$5,381,101	\$9,389,039	\$7,544,544	\$6,178,460	\$6,381,073	\$6,583,718	\$6,786,415	\$6,989,107	\$6,307,639	\$6,507,639	\$6,705,404	\$7,548,090	\$17,772,488	\$7,776,913	\$7,782,461	\$7,788,461
UTILITY COST TEST																			
Total Benefits		\$111,246,476																	
Total Costs		\$101,055,106																	
NET Benefit Cost Ratio		1.30																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$111,246,476																	
Total Costs		\$81,473,877																	
NET Benefit Cost Ratio		1.61																	

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:		Ameren DR Potential																		
DEMAND RESPONSE PROGRAM NAME:		Residential DR Electric Water Heaters																		
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)		YES																		
Number of Control Units Per Participant		1																		
If Existing Program - Total Number of Participants		0																		
Age of Existing Program - Years		0																		
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 Customer Table)			401,269	301,350	211,164	122,070	29,210	0	0	0	0	0	0	0	0	0	0	0	0	0
Coincident Peak (CP) Load Per Eligible Customer (kW)			3.61																	
Coincident Peak Load Efficiency Gain (Year 20)			0%	0.48%	1.35%	2.44%	3.55%	4.66%	5.71%	6.70%	7.67%	8.63%	9.58%	10.49%	11.37%	12.22%	13.06%	13.87%	14.62%	15.36%
Participant Incentive (\$/participant-Yr.)			\$8																	
Program Participation Rate (From Market Adoption Curve Table)			2.5%	10.8%	25.2%	33.5%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%
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			10,112	32,546	53,213	40,869	10,556	-	-	-	-	-	-	-	-	-	-	-	-	-
Base Sector CP Demand (kW)			1,440,776	1,072,571	743,260	424,797	200,478	-	-	-	-	-	-	-	-	-	-	-	-	-
Base Participant CP Demand (kW)			36,308	115,818	187,299	142,222	36,172	-	-	-	-	-	-	-	-	-	-	-	-	-
Coincident Peak Demand Reduction (kW)			4,045	13,038	21,285	16,348	4,266	-	-	-	-	-	-	-	-	-	-	-	-	-
Coincident Peak Demand Reduction@ Gen (kW)			4,290	13,808	22,577	17,339	4,461	-	-	-	-	-	-	-	-	-	-	-	-	-
NPV																				
Avoided Generation Demand																				
Firm Load Reduction?			YES																	
Coincident Peak Demand Reduction@ Gen (kW)			4,290	13,808	22,577	17,339	4,461	0	0	0	0	0	0	0	0	0	0	0	0	0
Coincident Peak Demand Reduction@ Gen (kW) - Including Reserve Margin			5,021	16,161	26,424	20,294	5,222	0	0	0	0	0	0	0	0	0	0	0	0	0
Avoided Generation Cost (\$/kW-Yr.) (Nominal \$)			\$12.38	\$109.98	\$122.65	\$125.10	\$127.80	\$130.36	\$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			\$7,376,145	\$362,312	\$1,431,898	\$1,456,884	\$1,338,823	\$668,119	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Avoided Energy Savings																				
Coincident Peak Demand Reduction@ Gen (kW)			4,290	13,808	22,577	17,339	4,461	0	0	0	0	0	0	0	0	0	0	0	0	0
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 Serve Energy During Control (\$/kWh) (Nominal \$)			\$18.46	\$37.51	\$41.97	\$48.44	\$52.26	\$49.85	\$55.46	\$57.69	\$59.62	\$70.33	\$73.50	\$76.12	\$72.96	\$75.65	\$89.00	\$94.68	\$99.52	\$103.60
Annual Avoided Energy Benefit			\$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)			4,290	13,808	22,577	17,339	4,461	0	0	0	0	0	0	0	0	0	0	0	0	0
Hours of Control			80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Annual Energy Shifted @ Gen			343,215	1,104,652	1,865,139	1,387,155	365,918	0	0	0	0	0	0	0	0	0	0	0	0	0
Cost to Serve Energy During Control (\$/MWh) (Nominal \$)			\$16.46	\$37.51	\$41.97	\$48.44	\$52.26	\$49.85	\$55.46	\$57.69	\$59.62	\$70.33	\$73.50	\$76.12	\$72.96	\$75.65	\$89.00	\$94.68	\$99.52	\$103.60
Cost to Serve Energy During Control (\$/kWh) (Nominal \$)			\$132.54	\$356.51	\$338.85	\$336.43	\$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
Energy Savings per kWh			\$2.82	\$1.90	\$6.13	\$12.80	\$13.15	\$4.37	\$4.23	\$5.77	\$17.72	\$8.57	\$8.12	\$9.85	\$18.85	\$22.64	\$23.82	\$25.18	\$25.90	\$26.90
Annual Generation Energy Shift Benefit			\$30,695	\$1,082	\$1,100	\$1,164	\$16,070	\$4,095	\$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			\$445,701	\$34,322	\$110,465	\$180,614	\$138,715	\$85,692	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Avoided Transmission & Distribution Demand																				
Annual Available kW Savings			4,290	13,808	22,577	17,339	4,461	-	-	-	-	-	-	-	-	-	-	-	-	-
Avoided Transmission & Distribution (\$/kW-Yr.) (Nominal \$)			\$14.43	\$34.92	\$25.42	\$25.93	\$26.45	\$26.98	\$27.52	\$28.07	\$28.63	\$29.20	\$29.79	\$30.38	\$30.99	\$31.61	\$32.24	\$32.89	\$33.54	\$34.21
Annual Avoided T&D Benefit			\$1,416,682	\$104,830	\$344,147	\$573,945	\$440,618	\$118,002	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL UTILITY AVOIDED COSTS (BENEFITS)			\$8,793,829	\$568,744	\$1,876,045	\$3,814,792	\$2,988,441	\$784,111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
COSTS																				
NPV																				
Newly Installed Units (Includes replacement of units at end of useful life)			10,112	22,454	20,658	0	0	0	0	0	0	0	10,112	22,454	20,658	0	0	0	0	0
EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA																				
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			\$170	\$175	\$181	\$186	\$192	\$197	\$204	\$210	\$216	\$223	\$229	\$234	\$242	\$249	\$256	\$263	\$271	\$278
Variable Utility/PA Installed Equipment Cost			\$12,298,441	\$2,730,233	\$6,178,280	\$5,805,685	\$1,980,286	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288	\$1,980,288
Non-Equipment Participant Incentives (\$/participant-Yr.)			\$1,090,516	\$80,815	\$263,365	\$425,707	\$316,913	\$84,125	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Non-Equipment Program Incentive Costs			\$1,090,516	\$80,815	\$263,365	\$425,707	\$316,913	\$84,125	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Implementation																				
Admin			\$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			\$679,963	\$1,325,120	\$1,431,144	\$1,431,144	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fixed Program Costs			\$90,000	\$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
TOTAL PROGRAM COSTS - TFC (No Amortization)			\$5,016,626	\$889,726	\$1,642,176	\$1,552,543	\$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																	
Total Program Costs			\$106,970	\$30,000	\$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)			\$29,472,456	\$4,798,854	\$8,885,824	\$7,789,137	\$454,046	\$213,761	\$132,238	\$136,873	\$137,370	\$140,321	\$143,128	\$145,429	\$147,689	\$149,909	\$152,089	\$154,226	\$156,321	\$158,377
TOTAL PROGRAM COSTS (Amortized Variable Equipment Costs)			\$29,472,456	\$4,797,064	\$8,106,983	\$7,064,340	\$24,434,333	\$2,194,049	\$1,212,516	\$1,115,160	\$1,117,858	\$1,120,609	\$1,123,244	\$1,125,746	\$1,128,193	\$1,130,648	\$1,133,103	\$1,135,558	\$1,138,013	\$1,140,468
TOTAL PROGRAM COSTS - TFC (No Amortization)			\$28,421,939	\$1,628,959	\$7,825,538	\$7,363,430	\$127,093	\$129,635	\$132,228	\$134,873	\$137,370	\$140,321	\$143,128	\$145,429	\$147,689	\$149,909	\$152,089	\$154,226	\$156,321	\$158,377
TOTAL PROGRAM COSTS - TFC (Amortized Variable Equipment Costs)			\$29,772,260	\$1,296,179	\$2,469,216	\$1,938,031	\$1,230,813	\$1,212,516	\$1,117,858	\$1,117,858	\$1,120,609	\$1,123,244	\$1,125,746	\$1,128,193	\$1,130,648	\$1,133,103	\$1,135,558	\$1,138,013	\$1,140,468	\$1,142,923
UTILITY COST TEST																				
Total Benefits			\$8,793,829																	
Total Costs			\$29,472,456																	
NET BENEFIT COST RATIO			0.30																	
TOTAL RESOURCE COST TEST																				
Total Benefits			\$8,793,829																	
Total Costs			\$28,421,939																	
TFC BENEFIT COST RATIO			0.31																	

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

- User Input	
PROJECT NAME:	
DEMAND RESPONSE PROGRAM NAME:	
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)	
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 Customer Table)	
Coincident Peak (CP) Load Per Eligible Customer (kW)	
3.61	
Coincident Peak Load Efficiency Gain (Year 20)	
0%	
Participant Incentive (\$/Participant-Yr.)	
58	
Program Participation Rate (From Market Adoption Curve Table)	
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)	
Per Participant CP Reduction (kW)	
1.36	
LOAD REDUCTION	
Number of Program Participants	
Base Sector CP Demand (kW)	
Base Participant CP Demand (kW)	
Coincident Peak Demand Reduction (kW)	
Coincident Peak Demand Reduction@ Gen (kW)	
NPV	
Avoided Generation Demand	
Firm Load Reduction?	
Coincident Peak Demand Reduction@ Gen (kW)	
Coincident Peak Demand Reduction@ Gen (kW) - Including Reserve Margin	
Avoided Generation Cost (\$/kW-Yr.) (Nominal \$)	
Annual Avoided Generation Capacity Benefit	
Avoided Energy Savings	
Coincident Peak Demand Reduction@ Gen (kW)	
Hours of Control	
Annual Energy Saved (kWh)	
Cost to Serve Energy During Control (\$/MWh) (Nominal \$)	
Annual Avoided Energy Benefit	
Generation Energy Shift	
Coincident Peak Demand Reduction@ Gen (kW)	
Hours of Control	
Annual Energy Shifted @ Gen	
Cost to Serve Energy During Control (\$/MWh) (Nominal \$)	
Cost to Serve Energy During Recovery (\$/MWh) (Nominal \$)	
Energy Savings per kWh	
Annual Generation Energy Shift Benefit	
Participant Benefit per Customer (\$/kW-Yr.)	
Total Participant Benefits	
Avoided Transmission & Distribution Demand	
Annual Available kW Savings	
Avoided Transmission & Distribution (\$/kW-Yr.) (Nominal \$)	
Annual Avoided T&D Benefit	
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	
COSTS	
NPV	
Newly 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	
Utility/PA Per Unit Labor Cost	
Total Utility/PA Installed Equipment Cost Per Unit	
Variable Utility/PA Installed Equipment Cost	
Amortized Utility/PA Installed Equipment Cost	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT	
Participant Share of Installation Cost Per Unit - Equipment	
Participant Share Installation Cost Per Unit - Labor	
Total Participant Share of Per Unit Installed Equipment Cost	
Total Participant Installed Equipment Costs	
Participant Incentive - Utility/PA Contribution to Participant Equipment Cost	
Total Utility/PA Contribution to Participant Equipment Costs	
Non-Equipment Participant Incentives (\$/Participant-Yr.)	
Total Non-Equipment Program Incentive Costs	
Implementation	
Admin	
Marketing	
Evaluation	
Fixed Program Costs	
Central Controller Software Costs	
Central Controller Hardware Costs	
TOTAL UTILITY COSTS (Not Amortized)	
TOTAL PROGRAM COSTS (Not Amortized Variable Equipment Costs)	
TOTAL PROGRAM COSTS - TRC (Not Amortizations)	
TOTAL PROGRAM COSTS - TRC (Not Amortized) (Equipment Costs)	
UTILITY COST TEST	
Total Benefits	
Total Costs	
NET Benefit Cost Ratio	
TOTAL RESOURCE COST TEST	
Total Benefits	
Total Costs	
TRC Benefit Cost Ratio	

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)

Total Benefits	\$15,423,270
Total Costs	\$10,939,350
Net Benefit Cost Ratio	1.41

TOTAL RESOURCE COST TEST

Total Benefits	\$15,423,270
Total Costs	\$10,939,350
Net Benefit Cost Ratio	1.41

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

PROJECT NAME:		= User Input																			
DEMAND RESPONSE PROGRAM NAME:		Ameren DR Potential Residential Critical Peak Pricing with Ensl																			
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)		1.09%																			
Number of Control Units Per Participant		2018																			
If Existing Program - Total Number of Participants		Year End																			
Age of Existing Program - Years		Item																			
		2019	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)		Average Program Customers by ZIP																			
		54,687	105,587	164,665	218,901	275,297	330,795	386,366	442,063	497,885	553,833	614,460	671,087	733,714	796,341	858,968	921,596	984,223	1,046,850		
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.61																			
Coincident Peak Load Efficiency Gain (Year 20)		0%																			
Participant Incentive (\$/kW-hr.)		0%																			
Program Participation Rate (From Market Adoption Curve Tab)		Customer Participation Rate																			
		99.4%	97.3%	93.7%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%	91.0%		
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)																					
LOAD REDUCTION																					
Number of Program Participants		54,347	106,669	154,229	203,476	250,520	301,023	351,593	402,277	453,075	503,888	554,559	605,129	655,700	706,270	756,841	807,412	857,983	908,554		
Base Load CP Demand (kW)		194,777	381,264	571,262	760,444	942,471	1,123,149	1,300,511	1,475,579	1,648,823	1,822,446	1,994,354	2,165,570	2,335,991	2,505,726	2,674,873	2,843,429	3,011,495	3,179,061		
Base Participant CP Demand (kW)		195,567	375,620	558,805	739,729	919,449	1,097,666	1,273,449	1,447,776	1,621,421	1,794,379	1,966,559	2,137,870	2,308,326	2,478,923	2,648,661	2,818,539	2,988,457	3,158,415		
Coincident Peak Demand Reduction (kW)		45,372	88,048	126,296	163,747	201,071	237,372	273,404	309,201	344,747	380,135	415,379	450,470	485,412	520,204	554,846	589,339	623,681	657,874		
Coincident Peak Demand Reduction@ Gen (kW)		45,125	91,389	131,058	171,221	211,320	251,407	291,476	331,523	371,547	411,547	451,514	491,446	531,342	571,201	610,924	650,511	689,962	729,285		
Benefits		NPV																			
Avoided Generation Demand		Firm Load Reduction?																			
Firm Load Reduction?		NO																			
Coincident Peak Demand Reduction@ Gen (kW)		48,125	91,389	131,058	171,221	211,320	251,407	291,476	331,523	371,547	411,547	451,514	491,446	531,342	571,201	610,924	650,511	689,962	729,285		
Coincident Peak Demand Reduction@ Gen (kW) - Including Reserve Margin		48,125	91,389	131,058	171,221	211,320	251,407	291,476	331,523	371,547	411,547	451,514	491,446	531,342	571,201	610,924	650,511	689,962	729,285		
Avoided Generation Cost (\$/kW-hr.) (Nominal \$)		\$52.36	\$100.98	\$122.65	\$125.10	\$127.60	\$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		\$451,266,443	\$1,158,813	\$9,480,137	\$16,476,803	\$27,208,818	\$31,079,523	\$36,206,245	\$41,206,495	\$46,156,495	\$51,046,495	\$55,876,495	\$60,646,495	\$65,356,495	\$70,006,495	\$74,596,495	\$79,126,495	\$83,596,495	\$88,006,495		
Avoided Energy Savings		Firm Load Reduction?																			
Firm Load Reduction?		NO																			
Coincident Peak Demand Reduction@ Gen (kW)		48,125	91,389	131,058	171,221	211,320	251,407	291,476	331,523	371,547	411,547	451,514	491,446	531,342	571,201	610,924	650,511	689,962	729,285		
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 Serve Energy During Control (\$/MWh) (Nominal \$)		\$18.46	\$37.51	\$41.97	\$48.44	\$52.26	\$58.45	\$65.46	\$72.69	\$79.93	\$87.30	\$94.70	\$102.13	\$109.60	\$117.10	\$124.63	\$132.19	\$139.78	\$147.40		
Annual Avoided Energy Benefit		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Generation Energy Shift		Firm Load Reduction?																			
Firm Load Reduction?		NO																			
Coincident Peak Demand Reduction@ Gen (kW)		48,125	91,389	131,058	171,221	211,320	251,407	291,476	331,523	371,547	411,547	451,514	491,446	531,342	571,201	610,924	650,511	689,962	729,285		
Hours of Control		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60		
Annual Energy Shifted @ Gen		2,887,462	5,603,364	8,057,492	10,393,250	12,703,779	15,346,430	17,654,605	20,000,566	22,382,440	24,791,181	27,226,688	29,697,179	32,200,724	34,735,304	37,300,910	39,897,542	42,525,200	45,183,884		
Cost to Serve Energy During Control (\$/MWh) (Nominal \$)		\$18.46	\$37.51	\$41.97	\$48.44	\$52.26	\$58.45	\$65.46	\$72.69	\$79.93	\$87.30	\$94.70	\$102.13	\$109.60	\$117.10	\$124.63	\$132.19	\$139.78	\$147.40		
Cost to Serve Energy During Control (\$/MWh) (Nominal \$)		\$18.46	\$37.51	\$41.97	\$48.44	\$52.26	\$58.45	\$65.46	\$72.69	\$79.93	\$87.30	\$94.70	\$102.13	\$109.60	\$117.10	\$124.63	\$132.19	\$139.78	\$147.40		
Energy Cost Savings per kWh		\$2.82	\$1.80	\$1.61	\$1.42	\$1.27	\$1.13	\$1.01	\$0.91	\$0.82	\$0.74	\$0.67	\$0.61	\$0.55	\$0.50	\$0.45	\$0.40	\$0.36	\$0.32		
Annual Generation Energy Shift Benefit		\$2,203,793	\$4,684	\$10,613	\$16,236	\$21,902	\$27,582	\$33,276	\$38,984	\$44,706	\$50,442	\$56,192	\$61,956	\$67,734	\$73,526	\$79,332	\$85,152	\$90,986	\$96,834		
Participant Benefit per Customer (\$/kW-hr.)		\$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		Firm Load Reduction?																			
Firm Load Reduction?		NO																			
Annual Available kW Savings		48,125	91,389	131,058	171,221	211,320	251,407	291,476	331,523	371,547	411,547	451,514	491,446	531,342	571,201	610,924	650,511	689,962	729,285		
Avoided Transmission & Distribution (\$/kW-hr.) (Nominal \$)		\$94.54,109	\$1,175,330	\$2,327,588	\$3,485,477	\$4,641,699	\$5,439,738	\$6,875,294	\$8,096,603	\$9,379,252	\$10,879,775	\$12,040,484	\$13,226,829	\$14,217,774	\$15,615,820	\$16,821,811	\$18,051,329	\$19,400,200	\$19,818,001		
Annual Avoided T&D Benefit		\$94,541,109	\$1,175,330	\$2,327,588	\$3,485,477	\$4,641,699	\$5,439,738	\$6,875,294	\$8,096,603	\$9,379,252	\$10,879,775	\$12,040,484	\$13,226,829	\$14,217,774	\$15,615,820	\$16,821,811	\$18,051,329	\$19,400,200	\$19,818,001		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$545,815,986	\$4,704,173	\$11,757,765	\$19,835,280	\$26,462,402	\$32,884,006	\$39,928,817	\$47,156,488	\$54,577,249	\$62,204,378	\$70,130,073	\$77,215,462	\$82,327,721	\$97,485,130	\$74,676,968	\$79,868,700	\$77,111,819	\$78,405,065	\$79,726,435	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY UTILITY OR PA		NPV																			
Newly Installed Equipment (includes replacement of units at end of useful life)		59503	57203	52078	51735	53703	55301	55374	55409	55624	55949	56245	56515	57957	52703	52360	54328	53027	55098	56124	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY UTILITY OR PA		NPV																			
Utility/PA Per Unit Equipment Cost		\$249	\$254	\$259	\$254	\$270	\$275	\$280	\$286	\$292	\$298	\$304	\$310	\$316	\$322	\$329	\$335	\$342	\$348	\$354	
Utility/PA Per Unit Labor Cost		\$230	\$235	\$230	\$235	\$271	\$276	\$282	\$287	\$293	\$299	\$305	\$311	\$317	\$323	\$330	\$336	\$343	\$349	\$355	
Utility/PA Per Unit Installed Equipment Cost		\$479	\$489	\$489	\$489	\$541	\$551	\$562	\$573	\$591	\$607	\$619	\$635	\$652	\$665	\$686	\$704	\$727	\$743	\$759	
Variable Utility/PA Installed Equipment Cost		\$171,860,644	\$265,099	\$26,160,785	\$27,816,974	\$27,936,052	\$28,006,389	\$30,457,320	\$31,117,343	\$31,811,860	\$32,526,320	\$33,240,312	\$36,179,806	\$35,944,341	\$33,351,310	\$33,798,788	\$35,770,887	\$37,535,793	\$38,360,004	\$39,215,032	
Residential Utility/PA Installed Equipment Cost		\$99,878,462	\$4,896,537	\$7,321,097	\$11,519,824	\$15,246,877	\$19,130,735	\$23,216,131	\$27,439,040	\$31,703,796	\$36,097,169	\$40,573,539	\$45,167,925	\$49,895,051	\$43,219,626	\$44,121,347	\$46,613,613	\$49,986,137	\$46,860,885	\$47,957,228	
EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT		NPV																			
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 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-hr.)		\$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		NPV																			
Admin		\$21,183	\$23,626	\$24,009	\$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		\$50,000	\$50,000	\$50,000	\$50,000	\$54,122	\$54,204	\$56,108	\$56,190	\$57,175	\$58,155	\$60,142	\$60,142	\$62,142	\$62,142	\$64,154	\$64,154	\$67,201	\$68,839	\$70,512	
O&M		\$1,955,365	\$2,291,425	\$4,080,481	\$5,194,512	\$6,765,721	\$8,280,238	\$9,874,975	\$11,529,513	\$13,244,707	\$15,027,693	\$15,546,600	\$15,701,213	\$16,001,671	\$16,340,120	\$15,685,706	\$17,038,610	\$17,988,925	\$17,769,883	\$17,769,883	
Fixed Program Costs		\$118,947,661	\$2,784,232	\$7,289,215	\$10,462,152	\$16,444,855	\$18,373,015	\$19,961,358	\$21,413,192	\$23,429,155	\$25,163,138	\$25,438,766	\$25,761,362	\$26,094,094	\$18,434,764	\$16,782,243	\$17,037,078	\$17,499,867	\$17,499,867	\$17,499,867	
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)		\$490,288,230	\$1,224,726	\$15,190,296	\$21,116,676	\$29,898,185	\$35,811,884	\$43,886,148	\$49,078,811	\$54,425,051	\$60,036,149	\$66,362,342	\$72,512,592	\$78,495,053	\$84,477,770	\$56,233,647	\$52,522,940	\$54,946,811	\$55,899,456	\$57,084,306	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$151,826,045	\$6,525,663	\$10,718,348	\$15,639,428	\$22,609,008	\$28,995,611	\$35,824,148	\$42,770,408	\$49,333,582	\$56,487,735	\$63,932,488	\$71,666,689	\$79,354,080	\$86,712,875	\$61,213,875	\$56,121,251	\$55,461,251	\$56,426,515	\$57,486,515	
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$640,288,230	\$1,231,252	\$15,200,644	\$21,138,104	\$29,927,193	\$35,847,495	\$43,937,296	\$49,159,219	\$54,544,559	\$60,171,290	\$66,500,830	\$72,684,184	\$78,672,126	\$84,655,545	\$56,447,517	\$52,745,180	\$55,098,062	\$56,045,971	\$57,269,821	

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

= User Input																			
PROJECT NAME:		Residential Critical Peak Pricing without I																	
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)		1																	
Number of Control Units Per Participant																			
If Existing Program - Total Number of Participants																			
Age of Existing Program - Years																			
Item		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	161,229	222,469	283,234	336,715	393,281	449,974	506,796	563,744	624,382	685,021	746,660	809,299	872,937	937,575	1,003,213	1,069,852
Coincident Peak (CP) Load Per Eligible Customer (kW)		3.61																	
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%	10.29%	10.68%	11.14%	11.59%	12.30%
Participant Incentive (\$/kW-Yr.)		\$0																	
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	142,519	185,189	229,783	276,106	322,490	368,978	415,572	462,270	509,064	555,964	602,968	650,076	697,288	744,504	791,724	838,948
Base Sector CP Demand (kW)		182,340	362,252	542,164	722,076	901,988	1,081,900	1,261,812	1,441,724	1,621,636	1,801,548	1,981,460	2,161,372	2,341,284	2,521,196	2,701,108	2,881,020	3,060,932	3,240,844
Base Participant CP Demand (kW)		179,679	348,738	517,797	686,856	855,915	1,024,974	1,194,033	1,363,092	1,532,151	1,701,210	1,870,269	2,039,328	2,208,387	2,377,446	2,546,505	2,715,564	2,884,623	3,053,682
Coincident Peak Demand Reduction (kW)		23,288	45,162	64,467	82,322	101,073	119,402	137,457	155,309	172,922	190,360	207,604	224,648	241,492	258,136	274,580	290,924	307,168	323,412
Coincident Peak Demand Reduction@ Gain (kW)		24,680	47,902	68,599	87,964	108,053	127,767	147,122	166,124	184,772	203,064	220,904	238,292	255,228	271,712	287,744	303,320	318,448	333,120
Net CP Demand Reduction (kW)		1,112	2,238	3,132	4,005	4,976	5,835	6,688	7,535	8,377	9,214	10,046	10,872	11,692	12,508	13,319	14,125	14,926	15,722
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$276,772,438	\$1,899,635	\$6,899,827	\$10,127,877	\$13,286,900	\$16,445,813	\$19,597,464	\$22,656,625	\$25,624,785	\$28,502,945	\$31,291,105	\$34,000,265	\$36,630,425	\$39,181,585	\$41,652,745	\$44,043,905	\$46,355,065	\$48,586,225
COSTS																			
Newly Installed Units (Includes replacement of units at end of useful life)		50448	48585	43507	42649	44595	46322	48084	49888	51694	53498	55298	57094	58886	60674	62458	64238	66014	67786
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	\$0.00	\$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 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	\$24,581	\$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
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	\$55,264	\$56,428	\$57,614	\$58,822	\$60,050	\$61,298	\$62,566	\$63,844	\$65,142	\$66,460	\$67,798	\$69,156	\$70,534
Fixed Program Costs		\$1,082,492	\$179,163	\$74,626	\$76,119	\$77,641	\$79,194	\$80,778	\$82,393	\$84,041	\$85,722	\$87,437	\$89,185	\$90,967	\$92,782	\$94,630	\$96,512	\$98,428	\$100,378
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	\$179,163	\$74,626	\$76,119	\$77,641	\$79,194	\$80,778	\$82,393	\$84,041	\$85,722	\$87,437	\$89,185	\$90,967	\$92,782	\$94,630	\$96,512	\$98,428	\$100,378
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$1,082,492	\$179,163	\$74,626	\$76,119	\$77,641	\$79,194	\$80,778	\$82,393	\$84,041	\$85,722	\$87,437	\$89,185	\$90,967	\$92,782	\$94,630	\$96,512	\$98,428	\$100,378
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$1,082,492	\$179,163	\$74,626	\$76,119	\$77,641	\$79,194	\$80,778	\$82,393	\$84,041	\$85,722	\$87,437	\$89,185	\$90,967	\$92,782	\$94,630	\$96,512	\$98,428	\$100,378
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Costs)		\$1,082,492	\$179,163	\$74,626	\$76,119	\$77,641	\$79,194	\$80,778	\$82,393	\$84,041	\$85,722	\$87,437	\$89,185	\$90,967	\$92,782	\$94,630	\$96,512	\$98,428	\$100,378
UTILITY COST TEST																			
Total Benefits		\$276,772,438																	
Total Costs		\$1,082,492																	
NET Benefit Cost Ratio		255.48																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$276,772,438																	
Total Costs		\$1,082,492																	
NET 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)

PROJECT NAME:
DEMAND RESPONSE PROGRAM NAME:

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
Age of Existing Program - Years

• User Input

Ameren OR Potential
Com Capacity Bidding

NO
YES
NO

1
2018

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

Item

Eligible Customers (From the Eligible Customers Tab)

Coincident Peak (CP) Load Per Eligible Customer (kW)

Coincident Peak Load Efficiency Gain (Year 20)

Participant Incentive (\$/kW-Yr.)

Program Participation Rate (From Market Adoption Curve Tab)

Annual Number of Control Hours (If load shifting program, enter 0)

Type of Savings Factor (Select from drop-down menu)

Program Savings Factor (Percent of CP Load)

Per Participant CP Reduction (kW)

LOAD REDUCTION	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Number of Program Participants	0	3	30	75	112	130	159	181	204	227	257	228	228	228	228	228	228	229	229
Base Sector CP Demand (kW)	3,895	38,124	113,940	205,474	282,112	335,554	386,419	435,900	484,918	532,837	571,940	523,337	523,337	523,337	523,337	523,337	523,337	523,337	523,337
Base Participant CP Demand (kW)	22	723	6,331	15,362	22,409	26,852	30,914	34,920	38,793	42,635	46,355	42,667	42,667	42,667	42,667	42,667	42,667	42,667	42,667
Coincident Peak Demand Reduction (kW)	4	145	1,234	2,996	4,370	5,236	6,028	6,809	7,565	8,314	9,058	8,314	8,314	8,314	8,314	8,314	8,314	8,314	8,314
Coincident Peak Demand Reduction@ Gen (kW)	4	148	1,297	3,148	4,592	5,503	6,335	7,150	7,949	8,727	9,495	8,727	8,727	8,727	8,727	8,727	8,727	8,727	8,727
US\$11.125																			
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$13,353,863	\$393	\$19,087	\$196,446	\$487,831	\$796,611	\$886,579	\$1,043,416	\$1,202,863	\$1,363,500	\$1,535,144	\$1,552,388	\$1,566,365	\$1,586,952	\$1,616,066	\$1,647,763	\$1,683,172	\$1,718,710	\$1,754,864

COSTS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
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	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139
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	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139
Variable Utility/PA Installed Equipment Cost	\$112	\$1,132	\$1,137	\$1,138	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139	\$1,139
Amortized Utility/PA Installed Equipment Cost	\$224,287	\$0	\$181	\$1,021	\$7,563	\$11,311	\$13,847	\$16,297	\$18,861	\$21,372	\$23,836	\$26,252	\$28,619	\$30,937	\$33,206	\$35,426	\$37,597	\$39,719	\$41,791
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	\$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 Incentives (\$/kW-Yr.)	\$11	\$356	\$3,113	\$7,555	\$11,021	\$13,206	\$15,203	\$17,174	\$19,079	\$20,968	\$22,771	\$20,771	\$20,771	\$20,771	\$20,771	\$20,771	\$20,771	\$20,771	\$20,771
Total Non-Equipment Program Incentive Costs	\$1,325,600	\$232,42	\$7,763.12	\$67,677.70	\$164,949.30	\$240,621.11	\$286,132.46	\$331,940.08	\$374,961.04	\$416,552.34	\$457,801.25	\$493,509.03	\$528,551.14	\$562,940.01	\$596,671.12	\$629,742.31	\$662,158.51	\$693,920.70	\$725,032.89
Implementation, Admin, Marketing	\$663,465	\$132,565	\$181,401	\$252,181	\$366,210	\$541,370	\$811,573	\$1,108,708	\$1,448,846	\$1,848,891	\$2,319,019	\$2,863,843	\$3,498,571	\$4,232,113	\$5,065,645	\$6,000,176	\$7,047,806	\$8,219,535	\$9,517,664
Central Controller Software Costs	\$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 Hardware Cost	\$53,185	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
TOTAL UTILITY COSTS (No Amortization)	\$4,238,405	\$147,305	\$48,481	\$154,496	\$386,748	\$598,434	\$774,202	\$941,030	\$1,107,858	\$1,274,686	\$1,441,514	\$1,508,342	\$1,575,170	\$1,641,998	\$1,708,826	\$1,775,654	\$1,842,482	\$1,909,310	\$1,976,138
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$4,270,536	\$147,803	\$48,979	\$155,024	\$393,243	\$605,462	\$781,230	\$948,058	\$1,114,886	\$1,281,714	\$1,448,542	\$1,515,370	\$1,582,198	\$1,649,026	\$1,715,854	\$1,782,682	\$1,849,510	\$1,916,338	\$1,983,166
TOTAL PROGRAM COSTS - INC (No Amortization)	\$5,563,865	\$1,380,108	\$484,462	\$1,698,992	\$4,284,787	\$6,475,042	\$8,665,297	\$10,855,552	\$13,045,807	\$15,236,062	\$17,426,317	\$19,616,572	\$21,806,827	\$23,997,082	\$26,187,337	\$28,377,592	\$30,567,847	\$32,758,102	\$34,948,357
TOTAL PROGRAM COSTS - INC (Amortized Installed Equipment Cost)	\$5,605,089	\$1,417,279	\$488,284	\$1,734,263	\$4,326,012	\$6,516,267	\$8,706,522	\$10,896,777	\$13,087,032	\$15,277,287	\$17,467,542	\$19,657,797	\$21,848,052	\$24,038,307	\$26,228,562	\$28,418,817	\$30,609,072	\$32,799,327	\$34,989,582

UTILITY COST TEST	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Total Benefits	\$13,353,863	\$393	\$19,087	\$196,446	\$487,831	\$796,611	\$886,579	\$1,043,416	\$1,202,863	\$1,363,500	\$1,535,144	\$1,552,388	\$1,566,365	\$1,586,952	\$1,616,066	\$1,647,763	\$1,683,172	\$1,718,710	\$1,754,864
Total Costs	\$1,325,600	\$232,42	\$7,763.12	\$67,677.70	\$164,949.30	\$240,621.11	\$286,132.46	\$331,940.08	\$374,961.04	\$416,552.34	\$457,801.25	\$493,509.03	\$528,551.14	\$562,940.01	\$596,671.12	\$629,742.31	\$662,158.51	\$693,920.70	\$725,032.89
UTC Benefit Cost Ratio	2.67																		

TOTAL RESOURCE COST TEST	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Total Benefits	\$13,353,863	\$393	\$19,087	\$196,446	\$487,831	\$796,611	\$886,579	\$1,043,416	\$1,202,863	\$1,363,500	\$1,535,144	\$1,552,388	\$1,566,365	\$1,586,952	\$1,616,066	\$1,647,763	\$1,683,172	\$1,718,710	\$1,754,864
Total Costs	\$5,605,089	\$1,417,279	\$488,284	\$1,734,263	\$4,326,012	\$6,516,267	\$8,706,522	\$10,896,777	\$13,087,032	\$15,277,287	\$17,467,542	\$19,657,797	\$21,848,052	\$24,038,307	\$26,228,562	\$28,418,817	\$30,609,072	\$32,799,327	\$34,989,582
TRC Benefit Cost Ratio	12.23																		

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)

PROJECT NAME:
DEMAND RESPONSE PROGRAM NAME:

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
Age of Existing Program - Years

• User Input

Ameren DR Potential
Com CPP Rate with Enabling Tech

NO
YES
YES

1,654

2018

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

Item

Eligible Customers (From the Eligible Customers Table)

Coincident Peak (CP) Load Per Eligible Customer (kW)

Coincident Peak Load Efficiency Gain (Year 20)

Participant Incentive (\$/kW-Yr.)

Program Participation Rate (From Market Adoption Curve Table)

Annual Number of Control Hours (If load shifting program, enter 0)

Type of Savings Factor (Select from drop-down menu)

Program Savings Factor (Percent of CP Load)

Per Participant CP Reduction (kW)

LOAD REDUCTION

Number of Program Participants

Base Sector CP Demand (kW)

Base Participant CP Demand (kW)

Coincident Peak Demand Reduction (kW)

Coincident Peak Demand Reduction@ Gen (kW)

15,911.15

TOTAL UTILITY AVOIDED COSTS (BENEFITS)

\$243,154,111

\$2,295,995

\$6,576,961

\$9,863,744

\$12,069,081

\$14,796,340

\$17,967,948

\$21,086,484

\$24,276,922

\$27,504,802

\$30,820,770

\$34,120,431

\$37,453,403

\$40,818,798

\$44,204,413

\$47,618,617

\$51,062,518

\$54,543,315

\$58,060,446

COSTS

RPV

11785 10237 6598 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

Utility/PA Per Unit Labor Cost

Total Utility/PA Installed Equipment Cost Per Unit

Variable Utility/PA Installed Equipment Cost

Amortized Utility/PA Installed Equipment Cost

\$89,596,262

\$9,267,894

\$8,204,577

\$1,203,769

\$1,032,587

\$1,709,440

\$4,574,634

\$5,146,017

\$7,473,251

\$7,621,100

\$7,682,793

\$7,790,437

\$7,956,314

\$11,028,610

\$8,890,962

\$6,468,436

\$6,305,962

\$7,879,048

\$8,239,084

\$9,160,487

\$9,912,364

\$10,512,364

\$11,461,093

EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT

Participant Share of Installation Cost Per Unit - Equipment

Participant Share Installation Cost Per Unit - Labor

Total Participant Share of Per Unit Installed Equipment Cost

Participant Incentive - Utility/PA Contribution to Participant Equipment Cost

Total Utility/PA Contribution to Participant Equipment Costs

Participant Incentive - Utility/PA Contribution to Participant Equipment Cost

Total Utility/PA Contribution to Participant Equipment Costs

Non-Equipment Participant Incentives (\$/kW-Yr.)

Total Non-Equipment Program Incentive Costs

Implementation, Admin, Marketing

OBM

\$18,441,735

\$16,114

\$193,630

\$728,437

\$887,419

\$1,109,133

\$1,309,056

\$1,612,744

\$1,876,371

\$2,110,678

\$2,393,427

\$2,442,654

\$2,482,304

\$2,519,296

\$2,555,142

\$2,590,491

\$2,626,733

\$2,663,051

\$2,699,543

\$2,736,198

\$2,772,925

\$2,809,725

\$2,846,603

\$2,883,557

\$2,920,584

\$2,957,684

\$3,000,000

\$3,041,625

\$3,083,549

\$3,125,772

\$3,168,295

\$3,211,117

\$3,254,238

\$3,297,659

\$3,341,380

\$3,385,401

\$3,429,722

\$3,474,343

\$3,519,264

\$3,564,485

\$3,609,906

\$3,655,627

\$3,701,648

\$3,747,969

\$3,794,590

\$3,841,511

\$3,888,832

\$3,936,453

\$3,984,374

\$4,032,595

\$4,081,116

\$4,129,937

\$4,179,058

\$4,228,479

\$4,278,200

\$4,328,221

\$4,378,542

\$4,429,163

\$4,479,984

\$4,531,005

\$4,582,326

\$4,633,947

\$4,685,868

\$4,738,089

\$4,790,610

\$4,843,431

\$4,896,552

\$4,949,973

\$5,003,694

\$5,057,715

\$5,112,036

\$5,166,657

\$5,221,578

\$5,276,799

\$5,332,320

\$5,388,141

\$5,444,262

\$5,500,683

\$5,557,404

\$5,614,425

\$5,671,746

\$5,729,367

\$5,787,288

\$5,845,509

\$5,904,030

\$5,962,851

\$6,021,972

\$6,081,393

\$6,141,114

\$6,201,235

\$6,261,656

\$6,322,377

\$6,383,398

\$6,444,719

\$6,506,340

\$6,568,261

\$6,630,482

\$6,692,903

\$6,755,624

\$6,818,645

\$6,881,966

\$6,945,587

\$7,009,508

\$7,073,729

\$7,138,350

\$7,203,271

\$7,268,492

\$7,333,913

\$7,399,634

\$7,465,655

\$7,531,976

\$7,598,597

\$7,665,518

\$7,732,739

\$7,800,260

\$7,868,081

\$7,936,102

\$8,004,423

\$8,073,044

\$8,141,965

\$8,211,186

\$8,280,707

\$8,350,528

\$8,420,649

\$8,491,070

\$8,561,791

\$8,632,812

\$8,704,133

\$8,775,754

\$8,847,675

\$8,919,896

\$8,992,417

\$9,065,238

\$9,138,359

\$9,211,780

\$9,285,501

\$9,359,522

\$9,433,843

\$9,508,464

\$9,583,285

\$9,658,306

\$9,733,527

\$9,808,948

\$9,884,669

\$9,960,590

\$10,036,811

\$10,113,332

\$10,190,153

\$10,267,274

\$10,344,695

\$10,422,416

\$10,500,437

\$10,578,758

\$10,657,379

\$10,736,300

\$10,815,521

\$10,895,042

\$10,974,863

\$11,055,084

\$11,135,505

\$11,216,226

\$11,297,247

\$11,378,568

\$11,459,189

\$11,540,010

\$11,621,131

\$11,702,452

\$11,783,973

\$11,865,694

\$11,947,615

\$12,029,836

\$12,112,357

\$12,195,078

\$12,277,999

\$12,361,120

\$12,444,541

\$12,528,262

\$12,612,283

\$12,696,504

\$12,780,925

\$12,865,546

\$12,950,367

\$13,035,388

\$13,120,609

\$13,206,030

\$13,291,651

\$13,377,472

\$13,463,493

\$13,549,714

\$13,636,135

\$13,722,756

\$13,809,577

\$13,896,598

\$13,983,819

\$14,071,240

\$14,158,861

\$14,246,682

\$14,334,703

\$14,422,924

\$14,511,345

\$14,600,066

\$14,689,087

\$14,778,308

\$14,867,729

\$14,957,350

\$15,047,171

\$15,137,192

\$15,227,413

\$15,317,834

\$15,408,455

\$15,499,276

\$15,590,297

\$15,681,518

\$15,772,939

\$15,864,560

\$15,956,381

\$16,048,402

\$16,140,623

\$16,233,044

\$16,325,665

\$16,418,486

\$16,511,507

\$16,604,728

\$16,698,149

\$16,791,770

\$16,885,591

\$16,979,612

\$17,073,833

\$17,168,254

\$17,262,875

\$17,358,696

\$17,454,717

\$17,550,938

\$17,647,359

\$17,743,980

\$17,840,801

\$17,937,822

\$18,035,043

\$18,132,464

\$18,230,085

\$18,327,906

\$18,425,927

\$18,524,148

\$18,622,569

\$18,721,190

\$18,820,011

\$18,919,032

\$19,018,253

\$19,117,674

\$19,217,295

\$19,317,116

\$19,417,137

\$19,517,358

\$19,617,779

\$19,718,399

\$19,819,220

\$19,920,241

\$20,021,462

\$20,122,883

\$20,224,504

\$20,326,325

\$20,428,346

\$20,530,567

\$20,632,988

\$20,735,609

\$20,838,430

\$20,941,451

\$21,044,672

\$21,148,093

\$21,251,714

\$21,355,535

\$21,459,556

\$21,563,777

\$21,668,198

\$21,772,819

\$21,877,640

\$21,982,661

\$22,087,882

\$22,193,303

\$22,298,924

\$22,404,745

\$22,510,766

\$22,616,987

\$22,723,408

\$22,830,029

\$22,936,850

\$23,043,871

\$23,151,092

\$23,258,513

\$23,366,234

\$23,474,155

\$23,582,276

\$23,690,597

\$23,799,118

\$23,907,839

\$24,016,760

\$24,125,881

\$24,235,102

\$24,344,523

\$24,454,144

\$24,563,965

\$24,673,986

\$24,784,207

\$24,894,628

\$25,005,249

\$25,115,970

\$25,226,891

\$25,338,012

\$25,449,333

\$25,560,854

\$25,672,575

\$25,784,496

\$25,896,617

\$26,008,938

\$26,121,459

\$26,234,180

\$26,347,101

\$26,460,222

\$26,573,543

\$26,687,064

\$26,800,785

\$26,914,706

\$27,028,827

\$27,143,148

\$27,257,769

\$27,372,590

\$27,487,611

\$27,602,832

\$27,718,253

\$27,833,874

\$27,949,695

\$28,065,716

\$28,181,937

\$28,298,358

\$28,414,979

\$28,531,799

\$28,648,820

\$28,766,041

\$28,883,462

\$29,001,083

\$29,118,904

\$29,236,925

\$29,355,146

\$29,473,567

\$29,592,188

\$29,710,909

\$29,829,730

\$29,948,651

\$30,067,772

\$30,186,993

\$30,306,314

\$30,425,835

\$30,545,556

\$30,665,477

\$30,785,598

\$30,905,819

\$31,026,140

\$31,146,661

\$31,267,382

\$31,388,203

\$31,509,224

\$31,630,445

\$31,751,766

\$31,873,187

\$31,994,808

\$32,116,529

\$32,238,350

\$32,360,271

\$32,482,292

\$32,604,413

\$32,726,634

\$32,848,955

\$32,971,376

\$33,093,797

\$33,216,218

\$33,338,639

\$33,461,060

\$33,583,481

\$33,705,902

\$33,828,323

\$33,950,744

\$34,073,165

\$34,195,586

\$34,318,007

\$34,440,428

\$34,562,849

\$34,685,270

\$34,807,691

\$34,930,112

\$35,052,533

\$35,174,954

\$35,297,375

\$35,419,796

\$35,542,217

\$35,664,638

\$35,787,059

\$35,909,480

\$36,031,901

\$36,154,322

\$36,276,743

\$36,399,164

\$36,521,585

\$36,643,906

\$36,766,327

\$36,888,748

\$37,011,169

\$37,133,590

\$37,256,011

\$37,378,432

\$37,500,853

\$37,623,274

\$37,745,695

\$37,868,116

\$37,990,537

\$38,112,958

\$38,235,379

\$38,357,799

\$38,480,220

\$38,602,641

\$38,725,062

\$38,847,483

\$38,969,904

\$39,092,325

\$39,214,746

\$39,337,167

\$39,459,588

\$39,581,909

\$39,704,330

\$39,826,751

\$39,949,172

\$40,071,593

\$40,193,914

\$40,316,335

\$40,438,756

\$40,561,177

\$40,683,598

\$40,805,919

\$40,928,340

\$41,050,761

\$41,173,182

\$41,295,603

\$41,418,024

\$41,540,445

\$41,662,866

\$41,785,287

\$41,907,708

\$42,030,129

\$42,152,550

\$42,274,971

\$42,397,392

\$42,519,813

\$42,642,234

\$42,764,655

\$42,887,076

\$43,009,497

\$43,131,918

\$43,254,339

\$43,376,760

\$43,499,181

\$43,621,602

\$43,744,023

\$43,866,444

\$43,988,865

\$44,111,286

\$44,233,707

\$44,356,128

\$44,478,549

\$44,600,970

\$44,723,391

\$44,845,812

\$44,968,233

\$45,090,654

\$45,213,075

\$45,335,496

\$45,457,917

\$45,580,338

\$45,702,759

\$45,825,180

\$45,947,601

\$46,069,922

\$46,192,343

\$46,314,764

\$46,437,185

\$46,559,606

\$46,682,027

\$46,804,448

\$46,926,869

\$47,049,290

\$47,171,711

\$47,294,132

\$47,416,553

\$47,538,974

\$47,661,395

\$47,783,816

\$47,906,237

\$48,028,658

\$48,151,079

\$48,273,499

\$48,395,920

\$48,518,341

\$48,640,762

\$48,763,183

\$48,885,604

\$49,008,025

\$49,130,446

\$49,252,867

\$49,375,288

\$49,497,709

\$49,620,130

\$49,742,551

\$49,864,972

\$49,987,393

\$50,109,814

\$50,232,235

\$50,354,656

\$50,477,077

\$50,599,498

\$50,721,919

\$50,844,340

\$50,966,761

\$51,089,182

\$51,211,603

\$51,334,024

\$51,456,445

\$51,578,866

\$51,701,287

\$51,823,708</

COMMERCIAL - DEMAND RESPONSE - PMAF

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

PROJECT NAME:
DEMAND RESPONSE PROGRAM NAME:

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
Age of Existing Program - Years

• User Input

Ameren OR Participant
Com CPP Rate without Enabling Tech

NO
YES
YES

1
2018

Year End

Item	1 2018	2 2019	3 2020	4 2021	5 2022	6 2023	7 2024	8 2025	9 2026	10 2027	11 2028	12 2029	13 2030	14 2031	15 2032	16 2033	17 2034	18 2035	19 2036
Eligible Customers (From the Eligible Customers Table)	Calculated by the																		
Coincident Peak (CP) Load Per Eligible Customer (kW)	18.17																		
Coincident Peak Load Efficiency Gain (Per 20)	0%																		
Participant Incentive (\$/kW-Yr)	Calculated by the																		
Program Participation Rate (From Market Adoption Curve Table)	97.4%																		
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)	Calculated by the																		

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	77,419	84,498	91,576	98,654	105,732	112,809	119,886	126,963	134,040
Base Sector CP Demand (kW)	151,896	321,194	524,335	726,215	912,979	1,087,091	1,250,666	1,412,688	1,568,944	1,722,423	1,876,251	1,988,888	2,081,096	2,172,877	2,259,000	2,340,464	2,417,176	2,489,036	2,555,044
Base Participant CP Demand (kW)	150,023	286,161	387,717	476,012	574,988	684,810	787,919	888,363	987,868	1,085,254	1,074,308	1,054,579	1,029,090	1,003,786	1,047,051	1,047,051	1,046,614	1,046,460	1,046,460
Coincident Peak Demand Reduction (kW)	24,953	32,385	43,612	53,789	64,874	77,380	89,005	100,488	111,629	122,634	122,997	120,207	116,677	113,078	118,372	118,372	118,317	118,250	118,250
Coincident Peak Demand Reduction@ 60m (kW)	17,815	33,981	46,040	56,525	68,779	81,322	93,563	105,610	117,307	128,671	127,971	126,416	125,764	124,993	124,993	124,993	124,993	124,993	124,993
15MW/15	17,815	33,981	46,040	56,525	68,779	81,322	93,563	105,610	117,307	128,671	127,971	126,416	125,764	124,993	124,993	124,993	124,993	124,993	124,993
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$172,246,452	\$1,871,213	\$4,278,224	\$6,817,229	\$8,587,117	\$10,514,459	\$12,778,387	\$14,996,002	\$17,265,250	\$19,561,078	\$21,919,247	\$22,192,136	\$22,379,383	\$22,769,098	\$23,098,141	\$23,359,686	\$23,615,693	\$24,281,852	\$24,763,848

COSTS

RPV	8453	8028	6252	5686	6452	7251	7045	7054	7061	7069	38	39	39	38	39	39	38	39	40
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	\$13,144	\$13,807	\$14,483	\$15,173	\$15,876	\$16,594	\$17,325	\$18,072	\$18,833	\$19,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499	\$46,409
Fixed Program Costs	\$486,356	\$82,494	\$13,144	\$13,807	\$14,483	\$15,173	\$15,876	\$16,594	\$17,325	\$18,072	\$18,833	\$19,610	\$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 Amortization)	\$486,356	\$82,494	\$13,144	\$13,807	\$14,483	\$15,173	\$15,876	\$16,594	\$17,325	\$18,072	\$18,833	\$19,610	\$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	\$13,144	\$13,807	\$14,483	\$15,173	\$15,876	\$16,594	\$17,325	\$18,072	\$18,833	\$19,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499
TOTAL PROGRAM COSTS - TRC (No Amortization)	\$486,356	\$82,494	\$13,144	\$13,807	\$14,483	\$15,173	\$15,876	\$16,594	\$17,325	\$18,072	\$18,833	\$19,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)	\$486,356	\$82,494	\$13,144	\$13,807	\$14,483	\$15,173	\$15,876	\$16,594	\$17,325	\$18,072	\$18,833	\$19,610	\$40,402	\$41,210	\$42,034	\$42,875	\$43,733	\$44,607	\$45,499

UTILITY COST TEST

Total Benefits	\$172,246,452
Total Costs	\$486,356
TRC Benefit Cost Ratio	353.95

TOTAL RESOURCE COST TEST

Total Benefits	\$172,246,452
Total Costs	\$486,356
TRC Benefit Cost Ratio	353.95

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)

Page 23

2017 Integrated Resource Plan

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

PROJECT NAME:
DEMAND RESPONSE PROGRAM NAME:

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
Age of Existing Program - Years

AMERICAN DEMAND RESPONSE PROGRAM NAME:

NO
YES
NO

1

2018

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

Item

Eligible Customers (From the Eligible Customers Table)

Coincident Peak (CP) Load Per Eligible Customer (kW)

Coincident Peak Load Efficiency Gain (Per 20)

Participant Incentive (\$/kW-Yr)

Program Participation Rate (From Market Adoption Curve Table)

Annual Number of Control Hours (If load shifting program, enter 0)

Type of Savings Factor (Select from drop-down menu)

Program Savings Factor (Percent of CP Load)

Per Participant CP Reduction (kW)

LOAD REDUCTION

Number of Program Participants

Base Sector CP Demand (kW)

Base Participant CP Demand (kW)

Coincident Peak Demand Reduction (kW)

Coincident Peak Demand Reduction@ Gen (kW)

15MW125

TOTAL UTILITY AVOIDED COSTS (BENEFITS)

COSTS

RPV

0 0 0 0 421 622 562 556 557 558 558 558 2 2 2 2 2 2 2

Readily 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

Utility/PA Per Unit Labor Cost

Total Utility/PA Installed Equipment Cost Per Unit

Variable Utility/PA Installed Equipment Cost

Amortized Utility/PA Installed Equipment Cost

EQUIPMENT THAT WILL BE INSTALLED AND OWNED BY THE PARTICIPANT

Participant Share of Installation Cost Per Unit - Equipment

Participant Share Installation Cost Per Unit - Labor

Total Participant Share of Per Unit Installed Equipment Cost

Total Participant Installed Equipment Costs

Participant Incentive - Utility/PA Contribution to Participant Equipment Cost

Total Utility/PA Contribution to Participant Equipment Costs

Non-Equipment Participant Incentives (\$/kW-Yr)

Total Non-Equipment Program Incentive Costs

Implementation, Admin, Marketing

Fixed Program Costs

Central Controller Software Costs

Central Controller Hardware Costs

Central Controller Costs

TOTAL UTILITY COSTS (No Amortization)

TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)

TOTAL PROGRAM COSTS - TRC (No Amortization)

TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)

UTILITY COST TEST

Total Benefits

Total Costs

UTC Benefits Cost Ratio

TOTAL RESOURCE COST TEST

Total Benefits

Total Costs

TRC Benefits Cost Ratio

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)

PROJECT NAME:
DEMAND RESPONSE PROGRAM NAME:

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
Age of Existing Program - Years

• User Input

Ameren DR Potential
Com Demand Bidding

NO
YES
NO

1
2018

Year End

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Eligible Customers (From the Eligible Customers Table)	207	1,890	7,474	13,051	10,097	23,059	26,956	30,777	34,642	38,511	38,532	38,552	38,572	38,592	38,611	38,632	38,652	38,671
Coincident Peak (CP) Load Per Eligible Customer (kW)	6.05																	
Coincident Peak Load Efficiency Gain (Per 20)	0%	2.32%	4.37%	6.08%	7.77%	9.22%	10.48%	11.77%	12.95%	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 Table)	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%
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

	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
Base Sector CP Demand (kW)	2,327	10,891	42,397	77,423	104,475	124,378	142,221	161,108	179,388	197,278	195,080	193,313	192,211	191,343	190,199	190,205	190,020	189,962
Base Participant CP Demand (kW)	9	327	2,861	7,200	10,447	12,438	14,310	16,152	17,940	19,708	19,509	19,331	19,231	19,134	19,020	19,010	19,002	18,998
Coincident Peak Demand Reduction (kW)	1	23	207	504	731	871	1,002	1,131	1,250	1,360	1,365	1,353	1,346	1,339	1,331	1,331	1,330	1,330
Coincident Peak Demand Reduction@ 6am (kW)	1	24	218	530	769	915	1,053	1,188	1,320	1,450	1,455	1,452	1,445	1,438	1,399	1,398	1,396	1,396
15MW115	~7																	
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$1,884,378	\$50	\$3,088	\$32,981	\$62,047	\$121,696	\$147,415	\$173,386	\$199,719	\$226,348	\$254,732	\$257,409	\$259,814	\$263,597	\$267,653	\$272,768	\$278,452	\$284,224

COSTS

	1	55	466	772	634	396	386	386	386	387	2	2	2	2	2	2	2	2
Readily 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
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
Participant Share Installation Cost Per Unit - Labor		\$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)	\$0.5	\$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	\$42,106	\$47,525	\$52,786	\$57,088	\$57,403	\$56,881	\$56,186	\$55,961	\$55,937	\$55,912	\$55,915
Implementation, Admin, Marketing		\$132,590	\$36,900	\$66,152	\$89,114	\$79,478	\$65,032	\$65,548	\$66,884	\$68,254	\$69,653	\$69,781	\$69,563	\$69,181	\$68,563	\$68,207	\$67,914	\$67,790
Fixed Program Costs	\$751,379	\$132,590	\$36,900	\$66,152	\$89,114	\$79,478	\$65,032	\$65,548	\$66,884	\$68,254	\$69,653	\$69,781	\$69,563	\$69,181	\$68,563	\$68,207	\$67,914	\$67,790
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
Central Controller Hardware Costs		\$12,500									\$12,500							
Central Controller Costs	\$55,185	\$15,000	\$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
TOTAL UTILITY COSTS (No Amortization)	\$1,230,519	\$347,615	\$40,411	\$77,465	\$112,953	\$112,925	\$104,389	\$110,469	\$117,381	\$123,969	\$130,629	\$112,791	\$108,552	\$101,138	\$101,742	\$102,309	\$108,215	\$104,134
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,230,519	\$347,615	\$40,411	\$77,465	\$112,953	\$112,925	\$104,389	\$110,469	\$117,381	\$123,969	\$130,629	\$112,791	\$108,552	\$101,138	\$101,742	\$102,309	\$108,215	\$104,134
TOTAL PROGRAM COSTS - TRC (No Amortization)	\$804,564	\$347,590	\$39,450	\$48,753	\$91,767	\$81,184	\$67,792	\$68,363	\$69,756	\$71,183	\$72,641	\$55,328	\$45,871	\$44,552	\$45,441	\$46,344	\$47,279	\$48,222
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)	\$804,564	\$347,590	\$39,450	\$48,753	\$91,767	\$81,184	\$67,792	\$68,363	\$69,756	\$71,183	\$72,641	\$55,328	\$45,871	\$44,552	\$45,441	\$46,344	\$47,279	\$48,222

UTILITY COST TEST

Total Benefits	\$1,884,378
Total Costs	\$1,230,519
TRC Benefit Cost Ratio	1.54

TOTAL RESOURCE COST TEST

Total Benefits	\$1,884,378
Total Costs	\$804,564
TRC 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)

Page 25

2017 Integrated Resource Plan

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

User Input																			
PROJECT NAME:		Ameren DR Potential																	
DEMAND RESPONSE PROGRAM NAME:		Com DLR - Air Conditioning Switch																	
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)		NO																	
Number of Control Units Per Participant		1																	
If Existing Program - Total Number of Participants		2018																	
Age of Existing Program - Years		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 Table)		103,809	90,384	80,931	72,204	61,890	50,076	37,884	25,677	13,457	1,224	1,224	1,223	1,223	1,222	1,223	1,222	1,222	1,221
Coincident Peak (CP) Load Per Eligible Customer (kW)		6.05																	
Coincident Peak Load Efficiency Gain (Per 20)		0%	1.85%	3.68%	5.50%	7.32%	9.06%	10.79%	12.59%	14.06%	15.56%	17.03%	18.39%	19.77%	21.20%	22.69%	24.16%	24.67%	25.15%
Participant Incentive (\$/kW-Yr.)																			
Program Participation Rate (From Market Adoption Curve Table)		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%
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)		1.60																	
LOAD REDUCTION																			
Number of Program Participants		1,017	8,796	7,891	9,405	8,665	7,011	5,304	3,195	1,884	171	171	171	171	171	171	171	171	171
Base Sector CP Demand (kW)		6,113,981	524,602	460,954	401,285	371,155	309,382	195,548	112,964	68,470	6,112	6,020	5,913	5,806	5,694	5,582	5,548	5,510	5,479
Base Participant CP Demand (kW)		6,017	22,083	45,164	52,508	47,479	37,686	27,937	16,615	9,386	857	843	828	813	797	781	767	771	767
Coincident Peak Demand Reduction (kW)		1,598	5,800	11,692	13,942	12,807	10,507	7,438	4,943	2,545	228	224	220	216	212	207	206	205	204
Coincident Peak Demand Reduction@ Gen (kW)		1,679	6,148	12,602	14,651	13,348	10,915	7,795	5,194	2,875	239	235	231	227	222	218	217	215	214
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$10,729,466	\$446,677	\$898,270	\$2,371,702	\$2,381,937	\$2,384,371	\$1,927,487	\$1,460,332	\$982,983	\$521,782	\$47,763	\$47,938	\$47,987	\$48,042	\$48,080	\$48,277	\$48,315	\$48,706
COSTS																			
Newly Installed Units (Includes replacement of units at end of useful life)		1017	2779	4135	1470	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																			
Utility/PA Per Unit Equipment Cost		\$90	\$71	\$73	\$74	\$76	\$77	\$79	\$80	\$82	\$84	\$85	\$87	\$89	\$91	\$92	\$94	\$96	\$98
Utility/PA Per Unit Labor Cost		\$200	\$294	\$308	\$313	\$316	\$321	\$325	\$330	\$334	\$339	\$344	\$349	\$354	\$359	\$364	\$369	\$375	\$380
Total Utility/PA Installed Equipment Cost Per Unit		\$270	\$375	\$381	\$387	\$392	\$398	\$404	\$410	\$416	\$423	\$429	\$436	\$443	\$450	\$456	\$463	\$471	\$478
Variable Utility/PA Installed Equipment Cost		\$4,802,180	\$274,877	\$785,288	\$1,161,185	\$421,128	\$0	\$0	\$0	\$0	\$0	\$0	\$184,830	\$932,882	\$1,415,866	\$513,911	\$0	\$47	\$0
Amortized Utility/PA Installed Equipment Cost		\$4,365,012	\$346,867	\$1,176,962	\$2,96,292	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969	\$152,969
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 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 (\$/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		\$2,399,091	\$61,039	\$227,768	\$475,875	\$84,063	\$119,872	\$420,640	\$318,224	\$215,685	\$113,088	\$10,286	\$10,282	\$10,273	\$10,272	\$10,268	\$10,259	\$10,266	\$10,263
Implementation, Admin, Marketing			\$157,632	\$239,737	\$138,580	\$156,833	\$13,935	\$55,014	\$16,114	\$17,236	\$58,381	\$59,548	\$60,739	\$61,954	\$63,193	\$64,457	\$65,746	\$67,072	\$68,402
Fixed Program Costs		\$1,299,432	\$157,632	\$239,737	\$138,580	\$156,833	\$13,935	\$55,014	\$16,114	\$17,236	\$58,381	\$59,548	\$60,739	\$61,954	\$63,193	\$64,457	\$65,746	\$67,072	\$68,402
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
Central Controller Hardware Cost			\$12,500										\$12,500						
Central Controller Costs		\$53,185	\$15,500	\$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
TOTAL PROGRAM COSTS - UCT (No Amortization)		\$7,801,813	\$688,349	\$1,235,344	\$1,978,642	\$1,144,824	\$976,511	\$478,454	\$177,153	\$175,792	\$174,348	\$172,822	\$421,399	\$1,008,218	\$1,492,602	\$991,310	\$79,304	\$88,745	\$82,897
TOTAL PROGRAM COSTS - UCT (Amortized Installed Equipment Costs)		\$6,936,719	\$270,289	\$610,218	\$1,112,349	\$1,076,117	\$105,482	\$821,383	\$730,112	\$628,761	\$527,817	\$426,791	\$487,634	\$468,896	\$449,491	\$508,237	\$928,572	\$102,976	\$112,370
TOTAL PROGRAM COSTS - TRC (No Amortization)		\$5,402,723	\$447,210	\$1,007,575	\$1,502,766	\$1,080,613	\$16,641	\$57,774	\$58,529	\$68,108	\$61,110	\$62,536	\$61,117	\$597,945	\$1,482,330	\$581,042	\$69,045	\$70,479	\$71,834
TOTAL PROGRAM COSTS - TRC (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	\$448,883	\$489,219	\$497,958	\$499,812	\$500,709	\$502,107
UTILITY COST TEST																			
Total Benefits		\$10,729,466																	
Total Costs		\$7,801,813																	
UCT Benefits Cost Ratio		1.38																	
TOTAL RESOURCE COST TEST																			
Total Benefits		\$10,729,466																	
Total Costs		\$5,402,723																	
TRC Benefits Cost Ratio		1.99																	

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)

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

PROGRAM NAME:

DEMAND RESPONSE PROGRAM NAME:

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

Age of Existing Program - Years

NO

YES

1

2018

Year End

-1

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)

Customers on Site

754

908

1,084

1,390

1,826

2,321

2,876

3,490

4,075

4,903

5,834

6,766

7,525

7,998

8,472

8,946

9,420

9,894

Coincident Peak (CP) Load Per Eligible Customer (kW)

6.03

Coincident Peak Load Efficiency Gain (Year %)

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

1497

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)

6.47

LOAD REDUCTION

Number of Program Participants

751

892

1,038

1,312

1,715

2,182

2,703

3,261

3,831

4,409

5,084

6,300

7,074

7,518

7,964

8,405

8,855

9,300

Base Sector CP Demand (kW)

4,534

5,449

6,492

8,307

10,890

13,813

17,081

20,084

24,301

28,937

34,359

39,354

44,132

46,807

49,476

52,133

54,779

57,413

Base Participant Demand (kW)

4,515

5,382

6,217

7,960

10,237

12,984

16,096

19,443

22,855

27,091

32,298

37,279

42,044

43,999

46,507

49,005

51,492

53,980

Coincident Peak Demand Reduction (kW)

353

419

488

617

807

1,025

1,271

1,542

1,800

2,166

2,537

2,989

3,325

3,534

3,741

3,952

4,162

4,371

Coincident Peak Demand Reduction @ Gen (kW)

353

419

488

617

807

1,025

1,271

1,542

1,800

2,166

2,537

2,989

3,325

3,534

3,741

3,952

4,162

4,371

TOTAL PEAK DEMAND REDUCTION @ GEN (kW)

NPV

\$3,820,194

\$30,161

\$55,440

\$75,927

\$97,496

\$148,599

\$169,324

\$244,008

\$240,481

\$315,478

\$387,712

\$470,709

\$555,871

\$630,952

\$689,494

\$738,482

\$786,557

\$834,464

\$891,408

LOAD REDUCTION COSTS (BENEFITS)

NPV

\$3,820,194

\$30,161

\$55,440

\$75,927

\$97,496

\$148,599

\$169,324

\$244,008

\$240,481

\$315,478

\$387,712

\$470,709

\$555,871

\$630,952

\$689,494

\$738,482

\$786,557

\$834,464

\$891,408

\$951,408

EQUIPMENT THAT WILL BE DIRECTLY INSTALLED AND OWNED BY UTILITY OR PA

Utility/PA Per Unit Equipment Cost

\$252

\$257

\$262

\$267

\$271

\$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

\$67

Total Utility/PA Installed Equipment Cost Per Unit

\$300

\$306

\$312

\$318

\$323

\$331

\$338

\$345

\$351

\$358

\$364

\$371

\$378

\$386

\$395

\$402

\$410

\$420

Variable Utility/PA Installed Equipment Cost

\$2,034,677

\$225,263

\$44,148

\$46,649

\$67,282

\$118,138

\$154,119

\$176,256

\$188,881

\$197,889

\$209,289

\$229,049

\$250,037

\$262,189

\$275,452

\$287,549

\$301,372

\$316,900

\$338,498

\$387,387

Amortized Utility/PA Installed Equipment Cost

\$2,045,295

\$215,332

\$23,023

\$26,940

\$38,546

\$64,682

\$98,901

\$174,019

\$197,658

\$207,658

\$219,584

\$239,049

\$257,075

\$270,339

\$285,199

\$304,287

\$328,718

\$357,437

\$387,354

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

\$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

\$0.00

\$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 Admin

\$215,034

\$75,874

\$77,760

\$88,357

\$96,497

\$105,992

\$112,345

\$118,838

\$119,086

\$139,662

\$150,322

\$153,406

\$142,728

\$122,404

\$124,894

\$127,433

\$129,882

\$132,381

Marketing Evaluation

\$1,424,749

\$125,034

\$75,874

\$77,760

\$88,357

\$96,497

\$105,992

\$112,345

\$118,838

\$119,086

\$139,662

\$150,322

\$153,406

\$142,728

\$122,404

\$124,894

\$127,433

\$129,882

\$132,381

Fixed Program Costs

\$1,424,749

\$125,034

\$75,874

\$77,760

\$88,357

\$96,497

\$105,992

\$112,345

\$118,838

\$119,086

\$139,662

\$150,322

\$153,406

\$142,728

\$122,404

\$124,894

\$127,433

\$129,882

\$132,381

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)

\$3,459,426

\$440,297

\$119,822

\$123,428

\$179,838

\$286,725

\$326,111

\$388,601

\$393,730

\$512,375

\$512,375

\$638,711

\$670,339

\$680,395

\$654,180

\$594,953

\$561,306

\$587,332

\$619,749

TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)

\$3,479,004

\$234,356

\$98,897

\$104,790

\$148,783

\$246,179

\$284,893

\$336,364

\$340,817

\$472,294

\$472,294

\$590,346

\$619,086

\$629,142

\$595,221

\$549,481

\$520,882

\$542,082

TOTAL PROGRAM COSTS - TRC (No Amortization)

\$2,459,428

\$440,297

\$119,822

\$123,428

\$179,838

\$286,725

\$326,111

\$388,601

\$393,730

\$512,375

\$512,375

\$638,711

\$670,339

\$680,395

\$654,180

\$594,953

\$561,306

\$587,332

\$619,749

TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Costs)

\$2,479,004

\$234,356

\$98,897

\$104,790

\$148,783

\$246,179

\$284,893

\$336,364

\$340,817

\$472,294

\$472,294

\$590,346

\$619,086

\$629,142

\$595,221

\$549,481

\$520,882

\$542,082

UTILITY COST RATIO

\$3,459,426

\$440,297

\$119,822

\$123,428

\$179,838

\$286,725

\$326,111

\$388,601

\$393,730

\$512,375

\$512,375

\$638,711

\$670,339

\$680,395

\$654,180

\$594,953

\$561,306

\$587,332

\$619,749

TOTAL RESOURCE COST TEST

Total Benefits

\$3,459,426

Total Costs

\$3,459,426

NET Benefits Cost Ratio

1.00

TOTAL RESOURCE COST TEST

Total Benefits

\$3,459,426

Total Costs

\$3,459,426

NET Benefits Cost Ratio

1.00

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:		Ameren DR Potential Ind 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)		1																		
Number of Control Units Per Participant		2018																		
If Existing Program - Total Number of Participants																				
Age of Existing Program - Years																				
Item	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	2018	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)	Calculated by the	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)		\$14.54																		
Coincident Peak Load Efficiency Gain (Near 20)		0%	2.00%	3.62%	5.06%	6.37%	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)	Calculated by Total Participation Rate	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)		10.5%																		
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)		3,592	17,964	55,397	91,882	122,704	147,239	169,007	191,522	212,468	232,424	250,588	277,489	294,958	312,385	329,564	320,049	230,141	220,354	
Base Participant CP Demand (kW)		20	432	3,097	6,985	9,896	11,779	13,593	15,324	16,993	18,674	18,447	18,199	17,997	17,807	17,597	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	3,549	3,509	3,472	3,432	3,434	3,434	3,436	
Coincident Peak Demand Reduction@ Gen (kW)		4	88	635	1,451	2,028	2,414	2,795	3,140	3,482	3,827	3,780	3,729	3,688	3,649	3,606	3,607	3,609	3,611	
15MW125		1,250																		
TOTAL UTILITY AVOIDED COSTS (BENEFITS)		\$4,940,139	\$223	\$11,403	\$96,090	\$221,722	\$229,888	\$388,969	\$458,787	\$527,859	\$597,262	\$676,034	\$680,805	\$687,171	\$693,879	\$702,837	\$718,297	\$733,625	\$748,486	
COSTS																				
RPV		0	1	5	7	5	4	4	4	4	4	4	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	\$1,532	\$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	\$1,532	\$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		\$41,130	\$48	\$1,038	\$6,365	\$10,603	\$8,384	\$5,822	\$3,836	\$2,890	\$1,998	\$6,267	\$25	\$24	\$26	\$24	\$27	\$29	\$29	
Amortized Utility/PA Installed Equipment Cost		\$45,605	\$4	\$981	\$691	\$1,600	\$2,319	\$2,818	\$3,324	\$3,829	\$4,344	\$4,881	\$4,884	\$4,875	\$4,878	\$4,882	\$4,885	\$4,890	\$4,893	
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	\$0.00	\$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 Program 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	\$1,435	\$4,867	\$5,793	\$6,685	\$7,536	\$8,357	\$9,184	\$9,072	\$8,950	\$8,851	\$8,757	\$8,654	\$8,658	\$8,661	\$8,666	
Total Non-Equipment Program Incentive Costs		\$1,453,902	\$212.41	\$4,634.59	\$33,250.89	\$75,001.22	\$106,263.77	\$126,480.80	\$146,953.11	\$164,546.28	\$182,401.71	\$200,515.04	\$198,078.55	\$195,458.39	\$193,242.80	\$191,204.41	\$188,952.35	\$189,025.80	\$189,106.13	
Implementation, Admin, Marketing		\$132,516	\$13,617	\$36,982	\$39,115	\$18,994	\$18,530	\$19,281	\$40,010	\$40,806	\$41,690	\$19,622	\$40,402	\$41,222	\$42,009	\$42,888	\$43,763	\$44,620	\$45,513	
Total Program Costs		\$556,033	\$132,516	\$13,617	\$36,982	\$39,115	\$18,994	\$18,530	\$19,281	\$40,010	\$40,806	\$41,690	\$19,622	\$40,402	\$41,222	\$42,009	\$42,888	\$43,763	\$44,620	
Central Controller Software Costs		\$2,308	\$2,550	\$2,601	\$2,658	\$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		\$12,500																		
Central Controller Costs		\$15,185	\$15,050	\$2,550	\$2,601	\$2,658	\$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)		\$1,106,241	\$147,376	\$45,899	\$78,799	\$127,370	\$156,348	\$173,882	\$193,546	\$211,318	\$230,194	\$251,560	\$273,273	\$298,883	\$328,551	\$359,366	\$386,221	\$417,387	\$458,349	
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)		\$2,108,726	\$147,732	\$40,895	\$75,524	\$118,569	\$128,283	\$176,589	\$191,374	\$211,257	\$230,540	\$250,074	\$258,131	\$243,803	\$241,380	\$240,023	\$240,044	\$242,051	\$243,111	
TOTAL PROGRAM COSTS - INC (No Amortization)		\$652,338	\$147,584	\$33,200	\$46,348	\$122,569	\$150,084	\$167,112	\$187,993	\$208,771	\$228,732	\$250,945	\$265,194	\$248,417	\$246,619	\$245,347	\$246,214	\$247,195	\$248,081	
TOTAL PROGRAM COSTS - INC (Amortized Installed Equipment Cost)		\$647,779	\$147,529	\$36,260	\$46,273	\$121,568	\$149,029	\$166,108	\$186,412	\$206,711	\$226,079	\$248,519	\$262,651	\$246,386	\$244,771	\$243,175	\$242,075	\$242,818	\$243,446	
UTILITY COST TEST																				
Total Benefits		\$1,915,118																		
Total Costs		\$2,106,241																		
UTC Benefit Cost Ratio		2.35																		
TOTAL RESOURCE COST TEST																				
Total Benefits		\$1,915,118																		
Total Costs		\$612,318																		
TRC Benefit Cost Ratio		7.89																		

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)

PROJECT NAME:

DEMAND RESPONSE PROGRAM NAME:

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

Existing Program - Total Number of Participants

Age of Existing Program - Years

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)	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%	2.05%	3.62%	5.06%	6.37%	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)	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)	5,392	10,545	14,742	18,239	21,574	27,893	32,094	36,054	39,978	43,772	47,223	42,764	42,212	42,212	42,732	42,235	42,115	42,120
Base Participant CP Demand (kW)	4,969	9,124	11,524	13,672	16,266	19,184	22,082	24,850	27,585	30,203	32,824	29,466	29,126	28,796	28,445	28,369	28,370	28,375
Coincident Peak Demand Reduction (kW)	1,072	2,369	2,474	2,395	1,492	4,119	4,741	5,195	5,022	6,485	6,403	6,236	6,233	6,182	6,107	6,091	6,091	6,092
Coincident Peak Demand Reduction@ Gen Bus (kW)	1,127	2,058	2,600	3,085	3,670	4,328	4,962	5,607	5,224	6,814	6,729	6,468	6,372	6,497	6,438	6,401	6,401	6,402
15MW115	0.7																	
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$9,324,871	\$96,713	\$259,142	\$384,987	\$465,890	\$565,358	\$680,130	\$798,537	\$916,570	\$1,037,804	\$1,159,627	\$1,167,371	\$1,176,487	\$1,186,139	\$1,196,132	\$1,206,088	\$1,226,811	\$1,250,658

COSTS

RPV	79	68	42	38	47	54	55	54	55	54	79	68	42	38	47	54	55	54
Ready 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	\$636	\$629	\$641	\$654	\$667	\$681	\$694	\$708	\$722	\$737	\$751	\$766	\$782	\$797	\$813	\$830	\$846	\$863
Utility/PA Per Unit Labor Cost	\$256	\$255	\$260	\$265	\$271	\$276	\$282	\$287	\$293	\$299	\$305	\$311	\$317	\$323	\$330	\$336	\$343	\$350
Total Utility/PA Installed Equipment Cost Per Unit	\$894	\$884	\$901	\$919	\$938	\$957	\$976	\$995	\$1,015	\$1,035	\$1,056	\$1,077	\$1,099	\$1,121	\$1,143	\$1,166	\$1,189	\$1,213
Variable Utility/PA Installed Equipment Cost	\$136,783	\$68,719	\$60,021	\$57,449	\$55,138	\$53,889	\$53,112	\$53,452	\$53,985	\$55,612	\$55,542	\$56,768	\$57,386	\$58,000	\$58,615	\$59,231	\$59,848	\$60,465
Amortized Utility/PA Installed Equipment Cost	\$675,811	\$9,946	\$13,326	\$22,366	\$27,108	\$33,617	\$39,921	\$46,116	\$52,301	\$58,486	\$64,671	\$70,856	\$77,041	\$83,226	\$89,411	\$95,596	\$101,781	\$107,966
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
Participant Share Installation Cost Per Unit - Labor		\$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
Total Utility/PA Contribution to Participant Equipment Cost	\$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 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	\$31,144	\$31,807	\$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
OB&M	\$2,077	\$3,933	\$5,144	\$6,312	\$7,768	\$9,472	\$11,277	\$13,117	\$15,060	\$17,040	\$17,381	\$17,729	\$18,083	\$18,445	\$18,814	\$19,190	\$19,573	\$19,924
Fixed Program Costs	\$84,571	\$35,077	\$36,951	\$40,795	\$42,941	\$45,348	\$47,871	\$50,442	\$53,132	\$55,913	\$56,991	\$58,131	\$59,294	\$60,479	\$61,689	\$62,911	\$64,140	\$65,423
Control Controller Software Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Control Controller Hardware Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Control 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)	\$1,260,725	\$133,290	\$97,098	\$76,400	\$76,093	\$66,897	\$56,660	\$46,323	\$35,837	\$25,146	\$14,516	\$9,479	\$5,297	\$3,044	\$1,815	\$1,303	\$125,632	\$129,298
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$1,297,773	\$98,820	\$54,403	\$61,317	\$67,904	\$75,955	\$85,271	\$94,987	\$104,743	\$114,918	\$125,134	\$128,277	\$131,186	\$133,452	\$135,677	\$138,180	\$140,886	\$143,719
TOTAL PROGRAM COSTS - TC (No Amortization)	\$1,260,725	\$133,290	\$97,098	\$76,400	\$76,093	\$66,897	\$56,660	\$46,323	\$35,837	\$25,146	\$14,516	\$9,479	\$5,297	\$3,044	\$1,815	\$1,303	\$125,632	\$129,298
TOTAL PROGRAM COSTS - TC (Amortized Installed Equipment Cost)	\$1,297,773	\$98,820	\$54,403	\$61,317	\$67,904	\$75,955	\$85,271	\$94,987	\$104,743	\$114,918	\$125,134	\$128,277	\$131,186	\$133,452	\$135,677	\$138,180	\$140,886	\$143,719

UTILITY COST TEST

Total Benefits	\$9,124,871
Total Costs	\$1,260,725
UTC Benefit Cost Ratio	7.24

TOTAL RESOURCE COST TEST

Total Benefits	\$9,124,871
Total Costs	\$1,260,725
TRC 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:	Ameren 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
If Existing Program - Total Number of Participants	2018
Age of Existing Program - Years	
Item	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Eligible Customers (From the Eligible Customers Tab)	362 726 1,102 1,476 1,840 2,199 2,564 2,920 3,294 3,660 3,959 4,257 4,557 4,856 5,155 5,454 5,753 6,052
Coincident Peak (CP) Load Per Eligible Customer (kW)	106.35
Coincident Peak Load Efficiency Gain (Per 20)	0% 2.05% 3.62% 5.06% 6.37% 7.64% 8.91% 10.17% 11.35% 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 - Max Achievable (From Market Adoption Curve Tab)	97.4% 89.1% 73.9% 65.0% 61.0% 61.0% 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 1,615 1,840 2,075 2,306 2,365 2,304 2,303 2,362 2,301 2,300 2,300 2,299
Base Sector CP Demand (kW)	37,705 74,412 112,516 146,948 180,772 213,636 244,432 276,178 308,176 339,849 351,543 337,388 332,337 316,681 315,702 311,404 315,325 315,372
Base Participant CP Demand (kW)	36,738 66,267 82,271 96,311 111,886 134,207 154,307 171,992 192,954 211,585 208,872 206,254 203,822 201,399 198,892 198,705 198,655 198,621
Coincident Peak Demand Reduction (kW)	4,151 7,488 9,207 10,885 12,809 15,165 17,437 19,651 21,801 23,609 23,603 23,107 23,032 22,758 22,475 22,464 22,448 22,444
Coincident Peak Demand Reduction@ Gen (kW)	4,363 7,869 9,769 11,459 13,324 15,337 17,324 19,661 21,913 23,125 24,803 24,462 24,203 23,916 23,618 23,596 23,590 23,586
15MW/15	7.7
TOTAL UTILITY AVOIDED COSTS (BENEFITS)	\$13,694,655 \$385,784 \$990,738 \$1,446,569 \$1,727,657 \$2,083,352 \$2,504,190 \$2,936,842 \$3,377,736 \$3,820,743 \$4,273,452 \$4,303,041 \$4,338,086 \$4,368,634 \$4,401,031 \$4,435,387 \$4,519,638 \$4,608,848
COSTS	NPV
Really Installed Units (Includes replacement of units at end of useful life)	353 294 168 153 192 226 230 230 230 230 230 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
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	\$82,494 \$13,144 \$13,807 \$14,483 \$15,173 \$15,876 \$16,594 \$17,325 \$18,072 \$18,833 \$19,610 \$40,402 \$41,210 \$42,034 \$42,875 \$43,733 \$44,607 \$45,499
Fuel Program Costs	\$486,356 \$82,494 \$13,144 \$13,807 \$14,483 \$15,173 \$15,876 \$16,594 \$17,325 \$18,072 \$18,833 \$19,610 \$40,402 \$41,210 \$42,034 \$42,875 \$43,733 \$44,607
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)	\$486,356 \$82,494 \$13,144 \$13,807 \$14,483 \$15,173 \$15,876 \$16,594 \$17,325 \$18,072 \$18,833 \$19,610 \$40,402 \$41,210 \$42,034 \$42,875 \$43,733 \$44,607
TOTAL UTILITY COSTS (Amortized Variable Equipment Costs)	\$486,356 \$82,494 \$13,144 \$13,807 \$14,483 \$15,173 \$15,876 \$16,594 \$17,325 \$18,072 \$18,833 \$19,610 \$40,402 \$41,210 \$42,034 \$42,875 \$43,733 \$44,607
TOTAL PROGRAM COSTS - TRC (No Amortization)	\$486,356 \$82,494 \$13,144 \$13,807 \$14,483 \$15,173 \$15,876 \$16,594 \$17,325 \$18,072 \$18,833 \$19,610 \$40,402 \$41,210 \$42,034 \$42,875 \$43,733 \$44,607
TOTAL PROGRAM COSTS - TRC (Amortized Installed Equipment Cost)	\$486,356 \$82,494 \$13,144 \$13,807 \$14,483 \$15,173 \$15,876 \$16,594 \$17,325 \$18,072 \$18,833 \$19,610 \$40,402 \$41,210 \$42,034 \$42,875 \$43,733 \$44,607
UTILITY COST TEST	
Total Benefits	\$13,694,655
Total Costs	\$486,356
TRC Benefit Cost Ratio	69.28
TOTAL RESOURCE COST TEST	
Total Benefits	\$13,694,655
Total Costs	\$486,356
TRC Benefit Cost Ratio	69.28

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)

Compliance References

4 CSR 240-22.050(4)(D)	1-30
4 CSR 240-22.050(4)(D)1	1-30
4 CSR 240-22.050(4)(D)4	1-30
4 CSR 240-22.050(4)(D)5	1-30
4 CSR 240-22.050(4)(D)5A-5D	1-30
4 CSR 240-22.050(4)(E)	1-30
4 CSR 240-22.050(5)	1-30