

Appendix F

Demonstration Facility Power Consumption

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City of San Diego
Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
Advanced Water Purification Facility
Demonstration Facility Power Consumption - MF Control Panel Power Consumption

Calc By: E. You
Calc Date: 5/31/2012
Checked By: J. Thompson
Checked Date: 6/7/2012

MF Control Panel Power Consumption

Power = Voltage*Current

I (current) = 5 amps (MF control panel internal power, based on co)

V (current) = 120 volts (Power source for MF control panel was 120 V)

W = I*V = 0.6 kW

MF control panel power usage = 14.4 kW-hr/day for 24 hour/day plant operation

City of San Diego
Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
Advanced Water Purification Facility
Demonstration Facility Power Consumption - MF Compressor Power Consumption

Calc By: E. You
 Calc Date: 5/31/2012
 Checked By: J. Thompson
 Checked Date: 6/7/2012

Summary of MF Compressor Runtime (hours) for One Week

(Received from Jay DeCarolis on 5/31/12)

Date / Time	MF Compressor Runtime (hour)	Compressor Runtime on day of reading (hour)	Plant Runtime on day of reading (hour)	
5/25/2012 6:29	3324.61	9.37	20.9	
5/26/2012 7:17	3333.98	11.47	24	
5/27/2012 10:04	3345.45	2.74	13	
5/28/2012 11:20	3348.19	18.7	24	
5/30/2012 7:02	3366.89	3.17	24	
5/30/2012 14:24	3370.06	7.12	24	
5/31/2012 7:20	3377.18		7.7	
Total		52.57	137.6	38%

Assume compressor and dryer operate 40% of time MF is online.

MF Air Dryer Power Consumption

W = 0.3 kW (see vendor cutsheet)
 T = 9.6 hrs/day for 24-hr plant operation
 W = 2.88 kW-hr/day

City of San Diego
Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
Advanced Water Purification Facility
Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (August 2011)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP Process without MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
8/1/2011		69,382	483,747	14,400	2,880	570,409	177,175	468,854	646,029	154,749	785,020	275,289		2,431,496		1,478,895		RO A power meter reading low.
8/2/2011		71,411	483,747	14,400	2,880	572,438	174,969	468,854	643,823	270,270	820,177	273,271		2,579,979		1,627,378		RO A power meter reading low.
8/3/2011		62,367	483,747	14,400	2,880	563,394	164,713	468,854	633,567	207,498	642,896	214,921		2,262,276		1,309,675		RO A power meter reading low.
8/4/2011																		Offline for North City filter mudball chlorination
8/5/2011																		Offline for North City filter mudball chlorination
8/6/2011																		Offline for North City filter mudball chlorination
8/7/2011		3,197	20,156	600	120	24,073	105,975	468,854	574,829	0	0	21,600		620,502		131,492		RO systems offline.
8/8/2011		50,077	483,747	14,400	2,880	551,104	153,239	468,854	622,093	190,139	260,084	199,665		1,823,085		870,484		RO A power meter reading low.
8/9/2011		76,340	483,747	14,400	2,880	577,367	166,572	468,854	635,426	268,418	827,364	280,904		2,589,479		1,636,878		RO A power meter reading low.
8/10/2011		76,306	483,747	14,400	2,880	577,333	168,510	468,854	637,364	285,679	802,415	281,882		2,584,673		1,632,072		RO A power meter reading low.
8/11/2011		73,287	483,747	14,400	2,880	574,314	158,422	468,854	627,276	507,055	761,544	270,528		2,740,717		1,788,116		Electrician swapped 2 wires on RO A power meter.
8/12/2011		72,739	483,747	14,400	2,880	573,766	172,002	468,854	640,856	786,253	840,360	286,875		3,128,110		2,175,509		
8/13/2011		70,661	483,747	14,400	2,880	571,688	164,452	468,854	633,306	769,482	820,144	264,656		3,059,276		2,106,675		
8/14/2011		47,229	483,747	14,400	2,880	548,256	144,236	468,854	613,090	507,716	540,324	243,933		2,453,319		1,500,718		
8/15/2011		67,876	483,747	14,400	2,880	568,903	154,829	468,854	623,683	743,783	791,380	274,836		3,002,585		2,049,984		
8/16/2011		71,481	483,747	14,400	2,880	572,508	157,357	468,854	626,211	784,927	835,420	302,400		3,121,466		2,168,865		
8/17/2011		71,754	483,747	14,400	2,880	572,781	146,844	468,854	615,698	783,901	833,325	300,013		3,105,718		2,153,117		
8/18/2011		71,502	483,747	14,400	2,880	572,529	144,077	468,854	612,931	794,484	838,166	302,465		3,120,575		2,167,974		
8/19/2011																		Totals not recorded.
8/20/2011		29,478	483,747	14,400	2,880	530,505	124,587	468,854	593,441	290,233	309,204	109,878		1,833,261		880,660		
8/21/2011		17,433	483,747	14,400	2,880	518,460	118,133	468,854	586,987	173,358	160,102	67,017		1,505,924		553,323		
8/22/2011		50,326	483,747	14,400	2,880	551,353	133,286	468,854	602,140	551,012	569,555	208,435		2,482,495		1,529,894		
8/23/2011		74,411	483,747	14,400	2,880	575,438	148,203	468,854	617,057	811,023	829,978	301,956		3,135,452		2,182,851		
8/24/2011		72,283	483,747	14,400	2,880	573,310	154,231	468,854	623,085	805,821	856,534	302,195		3,160,945		2,208,344		
8/25/2011		72,297	483,747	14,400	2,880	573,324	149,646	468,854	618,500	806,455	858,888	310,680		3,167,847		2,215,246		
8/26/2011		58,773	483,747	14,400	2,880	559,800	148,074	468,854	616,928	647,053	675,318	244,696		2,743,795		1,791,194		
8/27/2011																		Totals not recorded.
8/28/2011		72,920	483,747	14,400	2,880	573,947	154,274	468,854	623,128	799,079	854,588	311,392		3,162,134		2,209,533		
8/29/2011		72,549	483,747	14,400	2,880	573,576	160,316	468,854	629,170	805,315	848,794	302,346		3,159,201		2,206,600		
8/30/2011		72,399	483,747	14,400	2,880	573,426	155,077	468,854	623,931	816,466	861,770	302,412		3,178,005		2,225,404		
8/31/2011		72,574	483,747	14,400	2,880	573,601	153,396	468,854	622,250	819,239	862,184	298,566		3,175,840		2,223,239		
TOTAL (kW-hr)		1,621	12,114	361	72	14,168	3,953	12,190	16,143	14,379	18,086	6,553		69,328		45,024		
AVERAGE (kW-hr/MG)		122	913	27	5	1,067	287	885	1,171	1,150	1,447	262		2,773		1,801		

City of San Diego
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Advanced Water Purification Facility
Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (September 2011)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP Process without MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
9/1/2011		71,884	483,747	14,400	2,880	572,911	150,591	468,854	619,445	822,969	849,608	268,390		3,133,323		2,180,722		
9/2/2011		66,237	483,747	14,400	2,880	567,264	141,659	468,854	610,513	741,020	755,582	237,032		2,911,411		1,958,810		
9/3/2011		53,834	483,747	14,400	2,880	554,861	137,444	468,854	606,298	591,336	612,258	184,835		2,549,588		1,596,987		
9/4/2011																		Totals not available.
9/5/2011		3,089	483,747	14,400	2,880	504,116	107,038	468,854	575,892	0	0	0		1,080,008		127,407		RO and UV/AOP offline.
9/6/2011		88,037	483,747	14,400	2,880	589,064	128,629	468,854	597,483	562,688	580,606	186,182		2,516,023		1,563,422		
9/7/2011		191,669	483,747	14,400	2,880	692,696	178,902	468,854	647,756	796,060	542,594	274,407		2,953,513		2,000,912		UF cleaning.
9/8/2011																		Blackout occurred at 3:30 p.m. Offline for weekend
9/9/2011																		Offline due to blackout
9/10/2011																		Offline due to blackout
9/11/2011		0					43,260	117,214	160,474	0	0	0		160,474		43,260		Offline due to blackout
9/12/2011		50,852	322,498	9,600	1,920	384,870	121,213	312,569	433,782	525,600	458,486	178,267		1,981,006		1,345,938		Back online at ~8 A.M.
9/13/2011		72,443	483,747	14,400	2,880	573,470	174,005	468,854	642,859	814,238	859,576	263,788		3,153,931		2,201,330		
9/14/2011		72,086	483,747	14,400	2,880	573,113	170,557	468,854	639,411	826,192	862,508	262,035		3,163,259		2,210,658		
9/15/2011		71,458	483,747	14,400	2,880	572,485	175,543	468,854	644,397	834,726	863,430	261,465		3,176,503		2,223,902		
9/16/2011		62,254	483,747	14,400	2,880	563,281	163,775	468,854	632,629	726,872	743,700	238,493		2,904,975		1,952,374		
9/17/2011		72,249	483,747	14,400	2,880	573,276	171,963	468,854	640,817	840,096	863,858	267,446		3,185,493		2,232,892		
9/18/2011		70,673	483,747	14,400	2,880	571,700	176,938	468,854	645,792	839,302	863,892	265,498		3,186,184		2,233,583		
9/19/2011	722.91	71,472	483,747	14,400	2,880	572,499	171,889	468,854	640,743	835,564	846,810	271,549		3,167,165		2,214,564		
9/20/2011	702.67	71,943	483,747	14,400	2,880	572,970	167,910	468,854	636,764	837,178	814,944	269,463		3,131,319		2,178,718		
9/21/2011	687.11	71,865	483,747	14,400	2,880	572,892	173,320	468,854	642,174	840,548	826,312	268,666		3,150,592		2,197,991		
9/22/2011	736.78	70,729	483,747	14,400	2,880	571,756	173,608	468,854	642,462	828,866	832,392	264,021		3,139,497		2,186,896		
9/23/2011	2.99																	Totals not available.
9/24/2011	687.83	71,068	483,747	14,400	2,880	572,095	194,134	468,854	662,988	838,174	811,920	201,340		3,086,517		2,133,916		
9/25/2011	709.57	70,878	483,747	14,400	2,880	571,905	195,343	468,854	664,197	832,254	804,412	4		2,872,772		1,920,171		UV/AOP offline.
9/26/2011	662.62	71,214	483,747	14,400	2,880	572,241	193,885	468,854	662,739	804,784	767,424	194,237		3,001,425		2,048,824		
9/27/2011	691.19	71,366	483,747	14,400	2,880	572,393	190,600	468,854	659,454	835,984	805,804	282,694		3,156,329		2,203,728		
9/28/2011	708.83	40,928	483,747	14,400	2,880	541,955	169,839	468,854	638,693	462,392	451,376	173,747		2,268,163		1,315,562		
9/29/2011	232.59	51,536	483,747	14,400	2,880	552,563	174,505	468,854	643,359	520,864	561,296	209,871		2,487,953		1,535,352		
9/30/2011	712.37	58,670	483,747	14,400	2,880	559,697	180,890	468,854	649,744	622,260	672,508	237,928		2,742,137		1,789,536		
TOTAL (kw-hr)		1,668	11,449	341	68	13,526	4,027	11,213	15,241	17,180	17,051	5,261		68,260		45,597		
AVERAGE (kw-hr/MG)		133	913	27	5	1,078	318	885	1,202	1,516	1,505	243		3,150		2,104		

City of San Diego
 Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
 Advanced Water Purification Facility
 Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (October 2011)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP Process without MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
10/1/2011	733.37	71,720	483,747	14,400	2,880	572,747	172,270	468,854	641,124	816,800	849,632	300,201		3,180,504			2,227,903	
10/2/2011	697.21	71,950	483,747	14,400	2,880	572,977	174,610	468,854	643,464	813,808	846,920	337,770		3,214,939			2,262,338	
10/3/2011	712.21	71,260	483,747	14,400	2,880	572,287	181,130	468,854	649,984	810,744	844,152	331,570		3,208,737			2,256,136	
10/4/2011	721.33																	Totals not available.
10/5/2011	333.67	77,960	483,747	14,400	2,880	578,987	180,010	468,854	648,864	810,744	3,612	318,560		2,360,767		1,408,166	MF cleaning. RO B offline.	
10/6/2011	382.43	163,170	0	0	0	163,170	179,870	468,854	648,724	823,136	607,880	306,130		2,549,040		2,080,186	RO B Cleaning.	
10/7/2011	728.60	328,000	0	0	0	328,000	181,190	468,854	650,044	812,024	263,412	314,110		2,367,590		1,898,736	RO B Cleaning.	
10/8/2011	330.84																	Totals not available.
10/9/2011	687.71	64,620	483,747	14,400	2,880	565,647	195,070	468,854	663,924	830,600	824,432	337,490		3,222,093		2,269,492		
10/10/2011	685.95	62,610	483,747	14,400	2,880	563,637	198,260	468,854	667,114	815,200	814,184	352,790		3,212,925		2,260,324		
10/11/2011	732.95	64,100	483,747	14,400	2,880	565,127	200,490	468,854	669,344	824,320	828,432	350,530		3,237,753		2,285,152		
10/12/2011	723.43	64,070	483,747	14,400	2,880	565,097	201,950	468,854	670,804	802,168	835,616	294,820		3,168,505		2,215,904		
10/13/2011	703.74	43,200	483,747	14,400	2,880	544,227	209,210	468,854	678,064	650,692	719,760	261,660		2,854,403		1,901,802		
10/14/2011	758.02	216,800	0	0	0	216,800	203,640	468,854	672,494	243,188	822,336	227,770		2,182,588		1,713,734	RO A Cleaning. (MF/RO A/UV offline)	
10/15/2011	353.75	154,040	0	0	0	154,040	205,610	468,854	674,464	296,972	829,672	118,420		2,073,568		1,604,714	RO A Cleaning. (MF/RO A/UV offline)	
10/16/2011	699.35	64,350	483,747	14,400	2,880	565,377	199,630	468,854	668,484	814,980	838,960	304,300		3,192,101		2,239,500		
10/17/2011	716.54	64,560	483,747	14,400	2,880	565,587	198,400	468,854	667,254	814,832	837,464	302,420		3,187,557		2,234,956		
10/18/2011	673.47	56,580	403,123	12,000	2,400	474,103	190,220	390,712	580,932	719,648	739,600	265,780		2,780,063		1,986,228	All systems offline for ~ 4 hours.	
10/19/2011	680.00	63,840	483,747	14,400	2,880	564,867	200,870	468,854	669,724	822,300	844,800	302,340		3,204,031		2,251,430		
10/20/2011	716.40	63,440	483,747	14,400	2,880	564,467	200,650	468,854	669,504	823,960	846,064	303,800		3,207,795		2,255,194		
10/21/2011	658.21	54,270	423,279	12,600	2,520	492,669	185,450	410,247	595,697	674,788	700,952	276,240		2,740,346		1,906,820	All systems offline for ~ 3 hours.	
10/22/2011	725.29	63,930	483,747	14,400	2,880	564,957	197,810	468,854	666,664	809,192	846,880	362,210		3,249,903		2,297,302		
10/23/2011	671.29	63,460	483,747	14,400	2,880	564,487	194,730	468,854	663,584	807,568	845,760	311,430		3,192,829		2,240,228		
10/24/2011	685.50	63,070	483,747	14,400	2,880	564,097	191,690	468,854	660,544	806,584	844,008	304,990		3,180,223		2,227,622		
10/25/2011	667.76	62,810	483,747	14,400	2,880	563,837	194,180	468,854	663,034	812,520	850,880	302,610		3,192,881		2,240,280		
10/26/2011	702.31	63,000	483,747	14,400	2,880	564,027	190,480	468,854	659,334	806,728	845,136	301,720		3,176,945		2,224,344		
10/27/2011	729.80	63,720	483,747	14,400	2,880	564,747	190,810	468,854	659,664	817,688	859,104	304,480		3,205,683		2,253,082		
10/28/2011	673.06	57,490	483,747	14,400	2,880	558,517	182,170	468,854	651,024	746,472	783,920	276,400		3,016,333		2,063,732		
10/29/2011	678.68	63,140	483,747	14,400	2,880	564,167	188,780	468,854	657,634	824,152	866,568	305,230		3,217,751		2,265,150		
10/30/2011	481.82	53,160	483,747	14,400	2,880	554,187	177,060	468,854	645,914	678,688	711,600	244,740		2,835,129		1,882,528		
10/31/2011	667.71	63,670	483,747	14,400	2,880	564,697	194,310	468,854	663,164	820,288	859,520	298,030		3,205,699		2,253,098		
TOTAL (kW-hr)		2,438	11,953	356	71	14,818	5,561	13,460	19,021	21,951	22,211	8,619		86,619		61,206		
AVERAGE (kW-hr/MG)		186	913	27	5	1,132	365	885	1,250	1,644	1,663	323		3,243		2,292		

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	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (November 2011)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP Process without MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
11/1/2011	718.37	63,260	483,747	14,400	2,880	564,287	199,080	468,854	667,934	826,400	865,336	333,772		3,257,729		2,305,128	NA	
11/2/2011	732.68	58,030	443,435	13,200	2,640	517,305	192,000	429,783	621,783	746,280	781,184	275,416		2,941,968		2,068,750	NA	All systems offline for ~2 hours.
11/3/2011	728.24	64,040	483,747	14,400	2,880	565,067	197,890	468,854	666,744	832,344	872,424	306,584		3,243,163		2,290,562	NA	
11/4/2011	712.08	44,060	322,498	9,600	1,920	378,078	171,680	312,569	484,249	567,168	593,936	212,868		2,236,300		1,601,232	NA	All systems offline for ~8 hours.
11/5/2011	23.93	35,850	483,747	14,400	2,880	536,878	140,795	468,854	609,650	498,769	548,883	181,349		2,375,528		1,422,927	NA	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
11/6/2011	688.19	62,360	483,747	14,400	2,880	563,387	196,160	468,854	665,014	847,048	886,792	313,860		3,276,101		2,323,500	NA	
11/7/2011	704.11	63,570	483,747	14,400	2,880	564,597	199,020	468,854	667,874	844,960	884,672	313,200		3,275,303		2,322,702	NA	
11/8/2011	677.76	63,170	483,747	14,400	2,880	564,197	202,120	468,854	670,974	855,552	897,256	311,212		3,299,191		2,346,590	NA	
11/9/2011	611.19	42,040	483,747	14,400	2,880	543,068	165,105	468,854	633,960	584,887	643,654	212,661		2,618,230		1,665,628	NA	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
11/10/2011	311.41	32,750	221,718	6,600	1,320	262,388	157,930	214,891	372,821	393,912	405,496	146,784		1,581,401		1,144,792	NA	All systems offline for ~13 hours.
11/11/2011	53.23	40,390	483,747	14,400	2,880	541,417	158,623	468,854	627,477	561,923	618,382	204,311		2,553,509		1,600,908	NA	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
11/12/2011	444.31	40,390	483,747	14,400	2,880	541,417	158,623	468,854	627,477	561,923	618,382	204,311		2,553,509		1,600,908	NA	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
11/13/2011	401.37	40,390	483,747	14,400	2,880	541,417	158,623	468,854	627,477	561,923	618,382	204,311		2,553,509		1,600,908	NA	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
11/14/2011	546.35	51,400	382,967	11,400	2,280	448,047	181,330	371,176	552,506	693,800	715,344	251,344		2,661,041		1,906,898	NA	All systems offline for ~5 hours.
11/15/2011	569.12	41,940	282,186	8,400	1,680	334,206	148,660	273,498	422,158	498,892	502,728	189,416		1,947,400		1,391,716	NA	All systems offline for ~10 hours.
11/16/2011	132.77	26,980	181,405	5,400	1,080	214,865	144,240	175,820	320,060	319,268	332,760	119,920		1,306,874		949,648	NA	All systems offline for ~15 hours.
11/17/2011	6.75	22,590	141,093	4,200	840	168,723	145,890	136,749	282,639	260,308	260,608	97,560		1,069,838		791,996	NA	All systems offline for ~17 hours.
11/18/2011	129.23	32,730	241,874	7,200	1,440	283,244	156,820	234,427	391,247	384,012	442,840	154,840	2,606,518	1,656,183	4,262,701	1,179,882	3,786,400	All systems offline for ~12 hours. Total AWP Power Meter Installed.
11/19/2011	738.27	62,320	483,747	14,400	2,880	563,347	205,690	468,854	674,544	858,300	897,944	300,852	109,894	3,294,987	3,404,881	2,342,386	2,452,280	
11/20/2011	713.42	62,030	483,747	14,400	2,880	563,057	207,820	468,854	676,674	860,536	900,576	300,212	113,086	3,301,055	3,414,141	2,348,454	2,461,540	
11/21/2011	686.73	61,900	483,747	14,400	2,880	562,927	206,470	468,854	675,324	867,816	907,632	325,200	110,692	3,338,899	3,449,591	2,386,298	2,496,990	
11/22/2011	673.24	61,630	483,747	14,400	2,880	562,657	204,720	468,854	673,574	875,704	914,952	356,040	112,414	3,382,927	3,495,341	2,430,326	2,542,740	
11/23/2011	657.91	62,158	483,747	14,400	2,880	563,185	244,113	468,854	712,967	864,772	951,661	314,425	102,441	3,407,010	3,509,451	2,454,409	2,556,849	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
11/24/2011	687.66	61,730	483,747	14,400	2,880	562,757	203,850	468,854	672,704	870,944	911,264	436,920	114,302	3,454,589	3,568,891	2,501,988	2,616,290	
11/25/2011	674.87	61,560	483,747	14,400	2,880	562,587	207,110	468,854	675,964	863,920	904,248	432,752	110,340	3,439,471	3,549,811	2,486,870	2,597,210	
11/26/2011	660.51	60,890	483,747	14,400	2,880	561,917	202,060	468,854	670,914	875,064	914,760	434,248	113,748	3,456,903	3,570,651	2,504,302	2,618,050	
11/27/2011	669.91	61,430	483,747	14,400	2,880	562,457	207,050	468,854	675,904	868,504	909,288	434,740	116,648	3,450,893	3,567,541	2,498,292	2,614,940	
11/28/2011	672.47	61,620	483,747	14,400	2,880	562,647	211,570	468,854	680,424	869,200	909,864	361,280	114,566	3,383,415	3,497,981	2,430,814	2,545,380	
11/29/2011	651.35	61,350	483,747	14,400	2,880	562,377	217,290	468,854	686,144	875,540	916,688	299,892	113,610	3,340,641	3,454,251	2,388,040	2,501,650	
11/30/2011	709.50	61,410	483,747	14,400	2,880	562,437	200,170	468,854	669,024	875,704	914,832	298,068	109,796	3,320,065	3,429,861	2,367,464	2,477,260	
TOTAL (kW-hr)		1,566	12,860	383	77	14,885	5,593	12,464	18,056	21,265	22,443	8,328		84,978		59,654		
AVERAGE (kW-hr/MG)		111	913	27	5	1,056	397	885	1,282	1,600	1,688	313		3,197		2,244		

City of San Diego
Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
Advanced Water Purification Facility
Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	
Total Daily Power Consumption (W-hr) (December 2011)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
12/1/2011	700.98	55,830	423,279	12,600	2,520	494,229	206,210	410,247	616,457	778,264	813,840	267,052	99,796	2,969,842	3,069,638	2,136,316	2,236,112	All systems offline for ~3 hours.
12/2/2011	736.18	61,100	483,747	14,400	2,880	562,127	213,390	468,854	682,244	884,864	922,928	302,068	98,906	3,354,231	3,453,137	2,401,630	2,500,536	
12/3/2011	659.63	61,030	483,747	14,400	2,880	562,057	223,180	468,854	692,034	801,808	838,088	275,480	102,278	3,169,467	3,271,745	2,216,866	2,319,144	RO Trains and UV offline for ~3 hours.
12/4/2011	734.79	61,360	483,747	14,400	2,880	562,387	202,450	468,854	671,304	884,432	925,496	304,252	105,798	3,347,871	3,453,669	2,395,270	2,501,068	
12/5/2011	657.36	59,890	483,747	14,400	2,880	560,917	188,950	390,712	579,662	741,376	901,856	294,760	101,808	3,078,571	3,180,379	2,204,112	2,305,920	UF and ROA offline for ~4 hours.
12/6/2011	685.86	60,770	483,747	14,400	2,880	561,797	201,290	468,854	670,144	869,408	932,992	301,568	104,412	3,335,909	3,440,321	2,383,308	2,487,720	
12/7/2011	687.67	60,740	483,747	14,400	2,880	561,767	190,510	468,854	659,364	833,504	937,712	301,208	100,138	3,293,555	3,393,693	2,340,954	2,441,092	
12/8/2011	696.77	57,720	463,591	13,800	2,760	537,871	189,320	449,319	638,639	832,880	890,296	285,392	103,032	3,185,078	3,288,110	2,272,168	2,375,200	All systems offline for ~1 hour.
12/9/2011	688.49	55,670	443,435	13,200	2,640	514,945	186,670	429,783	616,453	810,336	862,792	277,440	101,788	3,081,966	3,183,754	2,208,748	2,310,536	All systems offline for ~2 hours.
12/10/2011	684.62	61,210	483,747	14,400	2,880	562,237	217,020	468,854	685,874	883,824	943,168	302,728	107,154	3,377,831	3,484,985	2,425,230	2,532,384	
12/11/2011	723.24	60,970	483,747	14,400	2,880	561,997	217,970	468,854	686,824	883,656	941,936	302,272	105,284	3,376,685	3,481,969	2,424,084	2,529,368	
12/12/2011	700.65	60,530	483,747	14,400	2,880	561,557	210,410	468,854	679,264	872,808	930,560	298,128	109,516	3,342,317	3,451,833	2,389,716	2,499,232	
12/13/2011	694.04	62,050	483,747	14,400	2,880	563,077	212,540	468,854	681,394	887,680	943,360	302,292	87,638	3,377,803	3,465,441	2,425,202	2,512,840	
12/14/2011	703.49	61,420	483,747	14,400	2,880	562,447	207,080	468,854	675,934	892,152	946,424	304,612	107,728	3,381,569	3,489,297	2,428,968	2,536,696	
12/15/2011	697.67	61,090	483,747	14,400	2,880	562,117	197,880	468,854	666,734	890,200	939,256	301,088	104,926	3,359,395	3,464,321	2,406,794	2,511,720	
12/16/2011	571.53	51,480	403,123	12,000	2,400	469,003	190,080	390,712	580,792	726,960	769,512	246,752	100,680	2,793,019	2,893,699	1,999,184	2,099,864	All systems offline for ~4 hours.
12/17/2011	439.82	54,770	423,279	12,600	2,520	493,169	206,570	410,247	616,817	778,768	825,224	263,280	102,092	2,977,258	3,079,350	2,143,732	2,245,824	All systems offline for ~3 hours.
12/18/2011	692.05	61,240	483,747	14,400	2,880	562,267	216,410	468,854	685,264	890,968	946,408	303,608	109,430	3,388,515	3,497,945	2,435,914	2,545,344	
12/19/2011	719.79	61,960	483,747	14,400	2,880	562,987	213,990	468,854	682,844	891,232	946,616	303,672	110,322	3,387,351	3,497,673	2,434,750	2,545,072	
12/20/2011	662.09	43,490	342,654	10,200	2,040	398,384	185,170	332,105	517,275	619,712	657,592	211,568	96,532	2,404,531	2,501,063	1,729,772	1,826,304	All systems offline for ~7 hours.
12/21/2011	79.38	41,970	322,498	9,600	1,920	375,988	180,810	312,569	493,379	589,264	623,336	205,400	93,908	2,287,368	2,381,276	1,652,300	1,746,208	All systems offline for ~8 hours.
12/22/2011	679.24	63,130	483,747	14,400	2,880	564,157	211,690	468,854	680,544	888,896	943,952	306,792	110,676	3,384,341	3,495,017	2,431,740	2,542,416	
12/23/2011	312.87	49,620	382,967	11,400	2,280	446,267	165,550	371,176	536,726	705,440	746,528	241,656	94,198	2,676,617	2,770,815	1,922,474	2,016,672	All systems offline for ~5 hours.
12/24/2011	673.52	60,095	483,747	14,400	2,880	561,122	236,010	468,854	704,864	836,066	920,070	303,987	98,467	3,326,110	3,424,576	2,373,508	2,471,975	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
12/25/2011	684.25	61,820	483,747	14,400	2,880	562,847	196,540	468,854	665,394	892,312	946,744	305,200	102,096	3,372,497	3,474,593	2,419,896	2,521,992	
12/26/2011	703.81	61,030	483,747	14,400	2,880	562,057	200,860	468,854	669,714	899,616	949,472	303,092	105,306	3,383,951	3,489,257	2,431,350	2,536,656	
12/27/2011	670.02	61,420	483,747	14,400	2,880	562,447	193,100	468,854	661,954	902,928	950,336	303,492	102,228	3,381,157	3,483,385	2,428,556	2,530,784	
12/28/2011	686.76	60,800	483,747	14,400	2,880	561,827	193,660	468,854	662,514	909,304	952,520	303,328	110,044	3,389,493	3,499,537	2,436,892	2,546,936	
12/29/2011	663.57	60,868	483,747	14,400	2,880	561,896	239,048	468,854	707,902	846,831	931,917	307,901	99,957	3,356,447	3,456,404	2,403,846	2,503,803	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
12/30/2011	588.91	53,800	423,279	12,600	2,520	492,199	199,720	410,247	609,967	775,680	818,560	263,852	100,628	2,960,258	3,060,886	2,126,732	2,227,360	All systems offline for ~3 hours.
12/31/2011	720.68	61,900	483,747	14,400	2,880	562,927	243,100	468,854	711,954	861,184	947,712	313,120	101,944	3,396,897	3,498,841	2,444,296	2,546,240	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
TOTAL (kW-hr)		1,811	14,271	425	85	16,591	6,337	13,753	20,090	25,762	27,547	8,907	3,179	98,898	102,077	70,874	74,053	
AVERAGE (kW-hr/MG)		116	913	27	5	1,061	408	885	1,292	1,764	1,876	305	109	3,386	3,495	2,427	2,535	

City of San Diego
 Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
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 Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (January 2012)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
1/1/2012	685.48	61,330	483,747	14,400	2,880	562,357	210,870	468,854	679,724	895,440	948,720	306,432	110,640	3,392,673	3,503,313	2,440,072	2,550,712	
1/2/2012	689.21	61,290	483,747	14,400	2,880	562,317	210,870	468,854	679,724	896,248	949,424	305,388	110,956	3,393,101	3,504,057	2,440,500	2,551,456	
1/3/2012	673.73	61,390	483,747	14,400	2,880	562,417	213,840	468,854	682,694	877,672	937,760	301,620	113,430	3,362,163	3,475,593	2,409,562	2,522,992	
1/4/2012	698.29	61,700	483,747	14,400	2,880	562,727	216,520	468,854	685,374	892,608	947,888	303,592	114,060	3,392,189	3,506,249	2,439,588	2,553,648	
1/5/2012	683.36	61,120	483,747	14,400	2,880	562,147	212,100	468,854	680,954	895,768	950,368	304,776	117,444	3,394,013	3,511,457	2,441,412	2,558,856	
1/6/2012	707.14	51,820	382,967	11,400	2,280	448,467	194,900	371,176	566,076	731,960	772,304	257,224	103,224	2,776,031	2,879,255	2,021,888	2,125,112	All systems offline for ~5 hours.
1/7/2012	704.90	61,270	483,747	14,400	2,880	562,297	212,300	468,854	681,154	898,584	950,192	309,028	108,610	3,401,255	3,509,865	2,448,654	2,557,264	
1/8/2012	683.52	62,110	483,747	14,400	2,880	563,137	204,230	468,854	673,084	904,952	951,936	309,060	105,328	3,402,169	3,507,497	2,449,568	2,554,896	
1/9/2012	712.06	62,970	483,747	14,400	2,880	563,997	206,940	468,854	675,794	905,584	951,920	311,232	104,018	3,408,527	3,512,545	2,455,926	2,559,944	
1/10/2012	688.64	34,190	282,186	8,400	1,680	326,456	162,030	273,498	435,528	484,688	551,376	182,136	91,268	1,980,184	2,071,452	1,424,500	1,515,768	All systems offline for ~10 hours. Energy recovery device removed from RO Train A.
1/11/2012	7.12	6,440	483,747	14,400	2,880	507,467	113,400	468,854	582,254	9,816	8,816	11,760	54,080	1,120,113	1,174,193	167,512	221,592	Systems offline for ERD maintenance.
1/12/2012	0.00	39,350	302,342	9,000	1,800	352,492	173,412	293,034	466,446	569,488	576,752	193,640	97,878	2,158,818	2,256,696	1,563,442	1,661,320	All systems offline for ~9 hours.
1/13/2012	698.12	59,470	483,747	14,400	2,880	560,497	192,656	468,854	661,510	921,472	946,208	302,172	107,686	3,391,859	3,499,545	2,439,258	2,546,944	
1/14/2012	716.47	60,000	483,747	14,400	2,880	561,027	188,904	468,854	657,758	926,504	954,512	301,300	101,308	3,401,101	3,502,409	2,448,500	2,549,808	
1/15/2012	668.57	60,510	483,747	14,400	2,880	561,537	204,708	468,854	673,562	931,680	953,824	305,900	102,450	3,426,503	3,528,953	2,473,902	2,576,352	
1/16/2012	679.50	60,540	483,747	14,400	2,880	561,567	204,260	468,854	673,114	931,304	955,136	305,188	106,692	3,426,309	3,533,001	2,473,708	2,580,400	
1/17/2012	683.65	57,900	483,747	14,400	2,880	558,927	208,672	468,854	677,526	886,480	867,776	290,744	100,796	3,281,453	3,382,249	2,328,852	2,429,648	
1/18/2012	673.50	60,450	483,747	14,400	2,880	561,477	254,888	468,854	723,742	937,496	955,200	309,408	100,110	3,487,323	3,587,433	2,534,722	2,634,832	Positioner on UF feed valve controller replaced.
1/19/2012	724.74	60,530	483,747	14,400	2,880	561,557	267,432	468,854	736,286	939,224	955,184	311,592	103,606	3,503,843	3,607,449	2,551,242	2,654,848	
1/20/2012	722.54	18,620	382,967	11,400	2,280	415,267	245,968	371,176	617,144	733,080	747,696	246,976	127,596	2,760,163	2,887,759	2,006,020	2,133,616	All systems offline for ~5 hours.
1/21/2012	715.58	60,760	483,747	14,400	2,880	561,787	266,550	468,854	735,404	931,936	954,112	311,632	119,778	3,494,871	3,614,649	2,542,270	2,662,048	
1/22/2012	669.42	60,760	483,747	14,400	2,880	561,787	265,340	468,854	734,194	932,880	954,976	312,408	103,860	3,496,245	3,600,105	2,543,644	2,647,504	
1/23/2012	717.65	60,470	483,747	14,400	2,880	561,497	259,820	468,854	728,674	937,256	954,304	315,760	108,358	3,497,491	3,605,849	2,544,890	2,653,248	
1/24/2012	709.55	60,660	483,747	14,400	2,880	561,687	262,020	468,854	730,874	934,400	954,656	310,440	103,920	3,492,057	3,595,977	2,539,456	2,643,376	
1/25/2012	717.28	60,830	483,747	14,400	2,880	561,857	266,040	468,854	734,894	936,960	954,464	310,112	108,826	3,498,287	3,607,113	2,545,686	2,654,512	
1/26/2012	654.56	59,940	483,747	14,400	2,880	560,967	266,120	468,854	734,974	923,280	935,840	304,992	112,356	3,460,053	3,572,409	2,507,452	2,619,808	
1/27/2012	638.93	57,980	483,747	14,400	2,880	559,007	231,260	468,854	700,114	496,280	886,368	276,240	97,840	2,918,009	3,015,849	1,965,408	2,063,248	
1/28/2012	325.45	62,610	483,747	14,400	2,880	563,637	226,840	468,854	695,694	489,360	956,368	295,920	97,462	3,000,979	3,098,441	2,048,378	2,145,840	
1/29/2012	647.18	60,890	483,747	14,400	2,880	561,917	250,920	468,854	719,774	928,616	956,448	315,176	103,774	3,481,931	3,585,705	2,529,330	2,633,104	
1/30/2012	704.74	51,150	403,123	12,000	2,400	468,673	240,400	390,712	631,112	762,712	785,056	261,240	98,722	2,908,793	3,007,515	2,114,958	2,213,680	All systems offline for ~4 hours.
1/31/2012	674.16	61,400	483,747	14,400	2,880	562,427	267,348	468,854	736,202	928,240	958,528	314,384	110,388	3,499,781	3,610,169	2,547,180	2,657,568	
TOTAL (kw-hr)		1,720	14,331	427	85	16,563	6,902	13,890	20,791	25,372	27,084	8,797	3,246	98,608	101,855	70,387	73,634	
AVERAGE (kw-hr/MG)		110	913	27	5	1,055	440	885	1,324	1,713	1,828	297	110	3,329	3,438	2,376	2,486	

City of San Diego
 Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
 Advanced Water Purification Facility
 Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (February 2012)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
2/1/2012	750.29	60,190	483,747	14,400	2,880	561,217	266,864	468,854	735,718	928,600	957,712	312,388	108,902	3,495,635	3,604,537	2,543,034	2,651,936	
2/2/2012	723.27	60,270	483,747	14,400	2,880	561,297	263,280	468,854	732,134	928,904	956,528	315,240	101,490	3,494,103	3,595,593	2,541,502	2,642,992	
2/3/2012	762.94	54,520	483,747	14,400	2,880	555,547	254,416	468,854	723,270	823,528	849,328	280,628	98,588	3,232,301	3,330,889	2,279,700	2,378,288	
2/4/2012	680.75	60,868	483,747	14,400	2,880	561,896	239,048	468,854	707,902	846,831	931,917	307,901	99,957	3,356,447	3,456,404	2,403,846	2,503,803	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
2/5/2012	681.86	60,350	483,747	14,400	2,880	561,377	262,320	468,854	731,174	934,344	957,632	316,420	102,246	3,500,947	3,603,193	2,548,346	2,650,592	
2/6/2012	751.82	60,860	483,747	14,400	2,880	561,887	262,860	468,854	731,714	929,640	956,864	316,440	105,736	3,496,545	3,602,281	2,543,944	2,649,680	
2/7/2012	741.66	60,950	483,747	14,400	2,880	561,977	268,440	468,854	737,294	929,352	956,784	313,320	120,818	3,498,727	3,619,545	2,546,126	2,666,944	
2/8/2012	692.53	60,710	483,747	14,400	2,880	561,737	269,060	468,854	737,914	933,360	958,640	313,460	113,570	3,505,111	3,618,681	2,552,510	2,666,080	
2/9/2012	741.90	60,890	483,747	14,400	2,880	561,917	269,928	468,854	738,782	937,600	958,688	309,220	113,626	3,506,207	3,619,833	2,553,606	2,667,232	
2/10/2012	692.76	51,780	403,123	12,000	2,400	469,303	256,532	390,712	647,244	775,936	794,768	261,300	96,516	2,948,551	3,045,067	2,154,716	2,251,232	All systems offline for ~4 hours.
2/11/2012	712.89	61390	483,747	14,400	2,880	562,417	264612	468,854	733,466	936064	958000	317392	103,150	3,507,339	3,610,489	2,554,738	2657888	
2/12/2012	704.15	60790	483,747	14,400	2,880	561,817	264840	468,854	733,694	930496	956896	318028	104,662	3,500,931	3,605,593	2,548,330	2652992	
2/13/2012	688.73	60830	483,747	14,400	2,880	561,857	262928	468,854	731,782	928032	956208	317988	106,030	3,495,867	3,601,897	2,543,266	2649296	
2/14/2012	684.65	60410	483,747	14,400	2,880	561,437	267688	468,854	736,542	932080	956720	318532	104,490	3,505,311	3,609,801	2,552,710	2657200	
2/15/2012	677.95	60540	483,747	14,400	2,880	561,567	261852	468,854	730,706	931392	943600	311508	104,708	3,478,773	3,583,481	2,526,172	2630880	
2/16/2012	692.83	58030	483,747	14,400	2,880	559,057	260680	468,854	729,534	898768	909872	298160	101,434	3,395,391	3,496,825	2,442,790	2544224	
2/17/2012	684.41	59870	483,747	14,400	2,880	560,897	246440	468,854	715,294	747568	755584	249584	79,786	3,028,927	3,108,713	2,076,326	2156112	
2/18/2012	673.55	61100	483,747	14,400	2,880	562,127	266020	468,854	734,874	940368	954688	315560	104,408	3,507,617	3,612,025	2,555,016	2659424	
2/19/2012	693.96	61100	483,747	14,400	2,880	562,127	267780	468,854	736,634	938592	954832	320120	105,416	3,512,305	3,617,721	2,559,704	2665120	
2/20/2012	705.63	52490	483,747	14,400	2,880	553,517	251612	468,854	720,466	774320	809904	271856	96,346	3,130,063	3,226,409	2,177,462	2273808	
2/21/2012	676.50	61390	483,747	14,400	2,880	562,417	262056	468,854	730,910	862000	957728	318960	101,722	3,432,015	3,533,737	2,479,414	2581136	
2/22/2012	720.19	60550	483,747	14,400	2,880	561,577	258832	468,854	727,686	861552	958992	316652	113,118	3,426,459	3,539,577	2,473,858	2586976	
2/23/2012	723.71	60400	483,747	14,400	2,880	561,427	260840	468,854	729,694	847072	873648	290900	105,380	3,302,741	3,408,121	2,350,140	2455520	
2/24/2012	664.92	61620	483,747	14,400	2,880	562,647	261432	468,854	730,286	872352	955680	316760	107,292	3,437,725	3,545,017	2,485,124	2592416	
2/25/2012	721.22	61190	483,747	14,400	2,880	562,217	260268	468,854	729,122	872128	955264	316352	105,342	3,435,083	3,540,425	2,482,482	2587824	
2/26/2012	705.81	61320	483,747	14,400	2,880	562,347	259040	468,854	727,894	868592	952840	320344	105,864	3,432,017	3,537,881	2,479,416	2585280	
2/27/2012	680.39	61416	483,747	14,400	2,880	562,444	243759	468,854	712,613	788134	885108	320021	89,535	3,268,321	3,357,855	2,315,719	2405254	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.
2/28/2012	678.96	60390	483,747	14,400	2,880	561,417	259536	468,854	728,390	867296	948624	315296	105,834	3,421,023	3,526,857	2,468,422	2574256	
2/29/2012	660.96	61250	483,747	14,400	2,880	562,277	261112	468,854	729,966	878144	957024	317632	105,366	3,445,043	3,550,409	2,492,442	2597808	
TOTAL (kW-hr)		1,737	13,948	415	83	16,184	7,554	13,519	21,073	25,643	26,880	8,918	3,011	98,698	101,709	71,231	74,242	
AVERAGE (kW-hr/MG)		114	913	27	5	1,059	494	885	1,379	1,779	1,865	309	104	3,423	3,527	2,470	2,575	

City of San Diego
 Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
 Advanced Water Purification Facility
 Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (March 2012)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
3/1/2012	705.49	61,360	483,747	14,400	2,880	562,387	259,900	468,854	728,754	875,760	956,400	318,176	109,684	3,441,477	3,551,161	2,488,876	2,598,560	
3/2/2012	736.44	55,080	483,747	14,400	2,880	556,107	249,700	468,854	718,554	758,144	828,960	278,464	96,916	3,140,229	3,237,145	2,187,628	2,284,544	
3/3/2012	737.78	55,850	483,747	14,400	2,880	556,877	252,680	468,854	721,534	794,624	869,456	293,600	98,926	3,236,091	3,335,017	2,283,490	2,382,416	
3/4/2012	2.33	5,370	483,747	14,400	2,880	506,397	172,448	312,569	485,017	4,672	4,560	11,632	51,222	1,012,279	1,063,501	215,962	267,184	UF Critical alarm shut down plant (Bray air valve)
3/5/2012	2.63	32,940	483,747	14,400	2,880	533,967	199,532	371,176	570,708	414,061	456,848	15,728	224,459	1,991,313	2,215,772	1,136,389	1,360,848	
3/6/2012	761.64	61,210	483,747	14,400	2,880	562,237	241,612	468,854	710,466	844,544	899,632	315,536	104,314	3,332,415	3,436,729	2,379,814	2,484,128	
3/7/2012	657.01	49,930	483,747	14,400	2,880	550,957	226,948	468,854	695,802	670,400	738,000	250,872	91,562	2,906,031	2,997,593	1,953,430	2,044,992	
3/8/2012	690.75	61,740	483,747	14,400	2,880	562,767	239,300	468,854	708,154	866,112	952,640	322,672	101,760	3,412,345	3,514,105	2,459,744	2,561,504	
3/9/2012	746.76	56,410	483,747	14,400	2,880	557,437	236,740	468,854	705,594	776,480	858,944	287,360	100,258	3,185,815	3,286,073	2,233,214	2,333,472	
3/10/2012	688.76	61,820	483,747	14,400	2,880	562,847	246,132	468,854	714,986	851,368	948,416	313,560	107,728	3,391,177	3,498,905	2,438,576	2,546,304	
3/11/2012	695.63	61,580	483,747	14,400	2,880	562,607	244,640	468,854	713,494	851,360	948,496	318,648	106,732	3,394,605	3,501,337	2,442,004	2,548,736	
3/12/2012	667.07	61,990	483,747	14,400	2,880	563,017	244,760	468,854	713,614	844,560	948,816	318,400	106,050	3,388,407	3,494,457	2,435,806	2,541,856	
3/13/2012	686.46	62,100	483,747	14,400	2,880	563,127	244,868	468,854	713,722	848,800	948,160	309,296	104,760	3,383,105	3,487,865	2,430,504	2,535,264	
3/14/2012	738.25	61,900	483,747	14,400	2,880	562,927	245,740	468,854	714,594	848,480	949,376	309,992	106,700	3,385,369	3,492,069	2,432,768	2,539,468	
3/15/2012	705.61	62,130	483,747	14,400	2,880	563,157	244,940	468,854	713,794	846,576	948,432	313,048	104,906	3,385,007	3,489,913	2,432,406	2,537,312	
3/16/2012	717.17	61,500	483,747	14,400	2,880	562,527	245,280	468,854	714,134	843,552	948,960	313,328	104,020	3,382,501	3,486,521	2,429,900	2,533,920	
3/17/2012	681.82	62,010	483,747	14,400	2,880	563,037	243,300	468,854	712,154	844,192	946,080	313,504	103,874	3,378,967	3,482,841	2,426,366	2,530,240	
3/18/2012	696.55	61,680	483,747	14,400	2,880	562,707	243,760	468,854	712,614	853,632	948,928	316,272	101,616	3,394,153	3,495,769	2,441,552	2,543,168	
3/19/2012	737.05	61,750	483,747	14,400	2,880	562,777	242,700	468,854	711,554	854,640	948,352	315,488	102,510	3,392,811	3,495,321	2,440,210	2,542,720	
3/20/2012	654.64	60,470	483,747	14,400	2,880	561,497	240,360	468,854	709,214	851,952	937,152	307,568	103,554	3,367,383	3,470,937	2,414,782	2,518,336	
3/21/2012	740.29	61,900	483,747	14,400	2,880	562,927	243,100	468,854	711,954	861,184	947,712	313,120	101,944	3,396,897	3,498,841	2,444,296	2,546,240	
3/22/2012	646.07	342,470	483,747	14,400	2,880	843,497	204,528	390,712	595,240	857,712	481,664	288,640	120,026	3,066,753	3,186,779	2,192,294	2,312,320	UF cleaning.
3/23/2012	342.38	290,286	483,747	14,400	2,880	791,313	199,472	390,712	590,184	838,352	418,128	281,344	122,242	2,919,321	3,041,563	2,044,862	2,167,104	UF cleaning.
3/24/2012	666.30	61,870	483,747	14,400	2,880	562,897	244,072	468,854	712,926	863,200	951,312	316,248	104,450	3,406,583	3,511,033	2,453,982	2,558,432	
3/25/2012	667.90	62,270	483,747	14,400	2,880	563,297	240,536	468,854	709,390	862,176	951,456	314,352	102,874	3,400,671	3,503,545	2,448,070	2,550,944	
3/26/2012	641.09	61,270	483,747	14,400	2,880	562,297	243,652	468,854	712,506	861,856	950,256	317,288	103,150	3,404,203	3,507,353	2,451,602	2,554,752	
3/27/2012	638.37	58,050	483,747	14,400	2,880	559,077	239,012	468,854	707,866	832,736	935,792	297,136	96,602	3,332,607	3,429,209	2,380,006	2,476,608	
3/28/2012	658.41	52,700	483,747	14,400	2,880	553,727	244,640	468,854	713,494	871,072	1,024,640	314,856	114,428	3,477,789	3,592,217	2,525,188	2,639,616	
3/29/2012	691.55	52,310	483,747	14,400	2,880	553,337	243,768	468,854	712,622	870,432	1,019,616	319,552	113,522	3,475,559	3,589,081	2,522,958	2,636,480	
3/30/2012	737.82	56,210	483,747	14,400	2,880	557,237	233,552	468,854	702,406	779,840	914,912	286,456	98,470	3,240,851	3,339,321	2,288,250	2,386,720	
3/31/2012	703.09	59,140	483,747	14,400	2,880	560,167	240,368	468,854	709,222	863,152	1,024,384	304,200	98,932	3,461,125	3,560,057	2,508,524	2,607,456	
TOTAL (kW-hr)		2,277	14,996	446	89	17,809	7,342	14,124	21,466	24,706	26,606	8,896	3,308	99,484	102,792	70,363	73,672	
AVERAGE (kW-hr/MG)		139	913	27	5	1,084	460	885	1,344	1,594	1,717	287	107	3,209	3,316	2,270	2,377	

City of San Diego
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Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor		
Total Daily Power Consumption (W-hr) (April 2012)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
4/1/2012	709.80	62,050	483,747	14,400	2,880	563,077	244,100	468,854	712,954	863,680	1,085,504	317,360	105,898	3,542,575	3,648,473	2,589,974	2,695,872	
4/2/2012	785.51	61,870	483,747	14,400	2,880	562,897	243,040	468,854	711,894	860,768	1,043,136	316,728	108,730	3,495,423	3,604,153	2,542,822	2,651,552	
4/3/2012	683.45	61,770	483,747	14,400	2,880	562,797	240,892	468,854	709,746	860,272	1,057,616	315,192	109,378	3,505,623	3,615,001	2,553,022	2,662,400	
4/4/2012	685.26	238,810	483,747	14,400	2,880	739,837	238,968	468,854	707,822	836,208	1,028,688	307,040	103,438	3,619,595	3,723,033	2,666,994	2,770,432	
4/5/2012	695.09	182,990	483,747	14,400	2,880	684,017	244,872	468,854	713,726	685,936	981,968	306,192	101,082	3,371,839	3,472,921	2,419,238	2,520,320	
4/6/2012	772.50	105,050	483,747	14,400	2,880	606,077	236,208	468,854	705,062	772,480	893,552	286,088	97,502	3,263,259	3,360,761	2,310,658	2,408,160	
4/7/2012	712.52	62,060	483,747	14,400	2,880	563,087	242,280	468,854	711,134	849,232	1,036,224	312,176	106,828	3,471,853	3,578,681	2,519,252	2,626,080	
4/8/2012	714.10	62,600	483,747	14,400	2,880	563,627	245,368	468,854	714,222	846,288	1,037,232	311,976	105,016	3,473,345	3,578,361	2,520,744	2,625,760	
4/9/2012	685.09	62,090	483,747	14,400	2,880	563,117	243,840	468,854	712,694	839,232	1,023,536	312,296	106,686	3,450,875	3,557,561	2,498,274	2,604,960	
4/10/2012	703.56	62,340	483,747	14,400	2,880	563,367	243,192	468,854	712,046	840,304	1,009,312	308,448	102,836	3,433,477	3,536,313	2,480,876	2,583,712	
4/11/2012	779.18	62,040	483,747	14,400	2,880	563,067	245,632	468,854	714,486	842,048	1,007,008	305,584	104,920	3,432,193	3,537,113	2,479,592	2,584,512	
4/12/2012	673.57	62,850	483,747	14,400	2,880	563,877	245,256	468,854	714,110	839,728	1,002,528	306,104	100,846	3,426,347	3,527,193	2,473,746	2,574,592	
4/13/2012	751.96	56,920	483,747	14,400	2,880	557,947	235,712	468,854	704,566	753,232	900,544	272,400	95,528	3,188,689	3,284,217	2,236,088	2,331,616	
4/14/2012	719.99	61,990	483,747	14,400	2,880	563,017	243,560	468,854	712,414	847,840	1,010,224	307,696	101,842	3,441,191	3,543,033	2,488,590	2,590,432	
4/15/2012	750.11	61,800	483,747	14,400	2,880	562,827	246,060	468,854	714,914	846,368	1,006,304	315,624	103,812	3,446,037	3,549,849	2,493,436	2,597,248	
4/16/2012	677.57	598,720	483,747	14,400	2,880	1,099,747	245,692	468,854	714,546	441,216	991,952	301,160	145,708	3,548,621	3,694,329	2,596,020	2,741,728	RO A offline for approximately 12 hours for cleaning; Extra power usage at MF due to heating CIP water
4/17/2012	384.99	462,370	483,747	14,400	2,880	963,397	244,200	468,854	713,054	286,368	990,336	303,840	131,670	3,256,995	3,388,665	2,304,394	2,436,064	RO A offline for approximately 15 hours for cleaning; Extra power usage at MF due to heating CIP water
4/18/2012	643.70	297,120	423,279	12,600	2,520	735,519	230,128	410,247	640,375	293,888	349,072	110,408	696,264	2,129,262	2,825,526	1,295,736	1,992,000	All systems offline for approx. 3 hours; RO B offline for approximately 16 hours for cleaning; Extra power usage at MF due to heating CIP water
4/19/2012	326.57	125,610	483,747	14,400	2,880	626,637	243,808	468,854	712,662	840,291	445,648	303,684	67,135	2,928,922	2,996,057	1,976,321	2,043,456	RO B offline for approximately 12 hours for cleaning; Extra power usage at MF due to heating CIP water. Power total for RO A not available, usage estimated based on runtime and typical power usage.
4/20/2012	685.96	55,680	423,279	12,600	2,520	494,079	234,452	410,247	644,699	735,254	832,384	283,008	60,038	2,989,424	3,049,462	2,155,898	2,215,936	All systems offline for approximately 3 hours. Power total for RO A not available, usage estimated based on runtime and typical power usage.
4/21/2012	708.89	61,880	483,747	14,400	2,880	562,907	243,932	468,854	712,786	840,291	939,776	319,488	45,545	3,375,248	3,420,793	2,422,647	2,468,192	Power total for RO A not available, usage estimated based on runtime and typical power usage.
4/22/2012	608.97	58,080	443,435	13,200	2,640	517,355	239,948	429,783	669,731	770,267	882,080	300,768	65,913	3,140,201	3,206,114	2,266,983	2,332,896	All systems offline for approximately 2 hours. Power total for RO A not available, usage estimated based on runtime and typical power usage.
4/23/2012	681.64	61,180	483,747	14,400	2,880	562,207	244,188	468,854	713,042	840,291	907,808	316,152	39,853	3,339,500	3,379,353	2,386,899	2,426,752	Power total for RO A not available, usage estimated based on runtime and typical power usage.
4/24/2012	562.18	56,560	423,279	12,600	2,520	494,959	233,512	410,247	643,759	735,254	779,120	275,896	55,322	2,928,988	2,984,310	2,095,462	2,150,784	All systems offline for approximately 3 hours. Power total for RO A not available, usage estimated based on runtime and typical power usage.
4/25/2012	656.22	62,030	483,747	14,400	2,880	563,057	243,392	468,854	712,246	778,624	874,640	302,256	98,482	3,230,823	3,329,305	2,278,222	2,376,704	Power total for RO A not available, usage estimated based on runtime and typical power usage.
4/26/2012	649.71	61,520	483,747	14,400	2,880	562,547	243,048	468,854	711,902	778,928	876,576	300,992	100,472	3,230,945	3,331,417	2,278,344	2,378,816	
4/27/2012	737.47	53,739	423,279	12,600	2,520	492,138	213,289	410,247	623,536	689,618	774,470	280,018	78,343	2,859,780	2,938,123	2,026,254	2,104,597	All systems offline for approximately 3 hours. Power totals not available. Usage estimated based on runtime and typical power usage.
4/28/2012	686.76	61,540	483,747	14,400	2,880	562,567	243,428	468,854	712,282	780,128	876,480	315,912	98,832	3,247,369	3,346,201	2,294,768	2,393,600	
4/29/2012	710.65	60,930	483,747	14,400	2,880	561,957	242,632	468,854	711,486	780,528	877,488	345,992	101,582	3,277,451	3,379,033	2,324,850	2,426,432	
4/30/2012	677.13	56,930	463,591	13,800	2,760	537,081	240,312	449,319	689,631	745,024	823,552	327,069	102,233	3,122,357	3,224,590	2,209,447	2,311,680	All systems offline for approximately 1 hour
TOTAL (kW-hr)		3,401	14,210	423	85	18,119	7,225	13,773	20,998	22,720	27,345	8,988	3,442	98,168	101,610	70,186	73,627	
AVERAGE (kW-hr/MG)		218	913	27	5	1,164	464	885	1,349	1,608	1,894	306	117	3,342	3,459	2,389	2,506	

City of San Diego
Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
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Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor			
Total Daily Power Consumption (W-hr) (May 2012)																			
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments	
5/1/2012	691.82	61,470	483,747	14,400	2,880	562,497	244,000	468,854	712,854	775,296	874,272	318,192	100,978	3,243,111	3,344,089	2,290,510	2,391,488		
5/2/2012	696.28	61,360	483,747	14,400	2,880	562,387	242,880	468,854	711,734	777,760	879,024	359,032	100,872	3,289,937	3,390,809	2,337,336	2,438,208		
5/3/2012	693.84	61,380	483,747	14,400	2,880	562,407	244,888	468,854	713,742	773,072	874,992	357,496	100,108	3,281,709	3,381,817	2,329,108	2,429,216		
5/4/2012	745.35	56,910	443,435	13,200	2,640	516,185	237,040	429,783	666,823	686,048	794,784	314,104	95,210	2,977,944	3,073,154	2,104,726	2,199,936	All systems offline for approximately 2 hours	
5/5/2012	720.72	60,830	483,747	14,400	2,880	561,857	243,480	468,854	712,334	771,648	875,664	293,872	98,890	3,215,375	3,314,265	2,262,774	2,361,664		
5/6/2012	735.24	61,460	483,747	14,400	2,880	562,487	245,480	468,854	714,334	772,912	879,472	290,848	99,268	3,220,053	3,319,321	2,267,452	2,366,720		
5/7/2012	698.04	35,826	282,186	8,400	1,680	328,092	142,193	273,498	415,691	459,745	516,313	186,679	52,229	1,906,520	1,958,749	1,350,836	1,403,065	All systems offline for approximately 10 hours. Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
5/8/2012	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	All systems offline all day
5/9/2012	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	All systems offline all day
5/10/2012	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	All systems offline all day
5/11/2012	383.26	38,385	302,342	9,000	1,800	351,527	152,349	293,034	445,383	492,584	553,193	200,013	55,960	2,042,700	2,098,660	1,447,324	1,503,284	All systems offline for approximately 9 hours. Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
5/12/2012	688.36	62,740	483,747	14,400	2,880	563,767	198,680	468,854	667,534	766,224	872,080	296,536	100,060	3,166,141	3,266,201	2,213,540	2,313,600		
5/13/2012	738.32	62,110	483,747	14,400	2,880	563,137	198,380	468,854	667,234	764,800	873,264	295,544	99,150	3,163,979	3,263,129	2,211,378	2,310,528		
5/14/2012	700.96	61,930	483,747	14,400	2,880	562,957	197,780	468,854	666,634	759,328	871,808	295,680	99,170	3,156,407	3,255,577	2,203,806	2,302,976		
5/15/2012	680.77	62,560	483,747	14,400	2,880	563,587	192,988	468,854	661,842	762,288	876,864	296,528	100,036	3,161,109	3,261,145	2,208,508	2,308,544		
5/16/2012	694.54	62,900	483,747	14,400	2,880	563,927	193,944	468,854	662,798	762,416	873,760	293,104	101,556	3,156,005	3,257,561	2,203,404	2,304,960		
5/17/2012	667.47	55,960	483,747	14,400	2,880	556,987	190,600	468,854	659,454	719,248	789,808	264,656	95,856	2,990,153	3,086,009	2,037,552	2,133,408		
5/18/2012	688.49	55,824	483,747	14,400	2,880	556,851	172,125	468,854	640,979	676,644	775,462	260,130	88,187	2,910,067	2,998,253	1,957,465	2,045,652	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
5/19/2012	687.87	62,310	483,747	14,400	2,880	563,337	197,904	468,854	666,758	817,312	875,584	293,264	97,146	3,216,255	3,313,401	2,263,654	2,360,800		
5/20/2012	706.77	62,170	483,747	14,400	2,880	563,197	193,216	468,854	662,070	814,192	868,608	292,896	98,678	3,200,963	3,299,641	2,248,362	2,347,040		
5/21/2012	714.98	61,940	483,747	14,400	2,880	562,967	200,144	468,854	668,998	811,200	864,240	297,432	99,220	3,204,837	3,304,057	2,252,236	2,351,456		
5/22/2012	737.93	62,300	483,747	14,400	2,880	563,327	196,416	468,854	665,270	818,912	867,536	296,936	100,620	3,211,981	3,312,601	2,259,380	2,360,000		
5/23/2012	694.26	62,270	483,747	14,400	2,880	563,297	196,772	468,854	665,626	820,032	872,080	280,304	96,638	3,201,339	3,297,977	2,248,738	2,345,376		
5/24/2012	674.21	61,720	483,747	14,400	2,880	562,747	195,588	468,854	664,442	819,472	871,952	292,352	99,652	3,210,965	3,310,617	2,258,364	2,358,016		
5/25/2012	684.48	54,280	423,279	12,600	2,520	492,679	197,612	410,247	607,859	710,544	679,152	237,944	87,940	2,728,178	2,816,118	1,894,652	1,982,592	All systems offline for ~3 hours; ROB and UV offline for ~5 hours	
5/26/2012	679.13	483,747	14,400	2,880	501,027	468,854	468,854	468,854	468,854				-17,280	969,881	952,601	17,280			
5/27/2012	376.72	35,810	262,030	7,800	1,560	307,200	180,680	253,963	434,643	442,816	479,568	164,312	82,878	1,828,538	1,911,416	1,312,546	1,395,424	All systems offline for ~11 hours	
5/28/2012	49.76	50,058	382,967	11,400	2,280	446,705	154,347	371,176	525,523	606,756	695,367	233,262	80,894	2,507,613	2,588,507	1,753,470	1,834,364	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period. All systems offline ~ 5 hours.	
5/29/2012	686.71	50,058	382,967	11,400	2,280	446,705	154,347	371,176	525,523	606,756	695,367	233,262	80,894	2,507,613	2,588,507	1,753,470	1,834,364	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period. All systems offline ~ 5 hours.	
5/30/2012	682.85	231,900	483,747	14,400	2,880	732,927	188,780	468,854	657,634	786,720	872,080	306,656	99,208	3,356,017	3,455,225	2,403,416	2,502,624	Extra power usage on MF due to heating of water for UF CIP	
5/31/2012	663.21	285,150	483,747	14,400	2,880	786,177	177,068	214,891	391,959	364,800	853,488	279,184	136,214	2,675,609	2,811,823	1,976,970	2,113,184	UF and ROA offline for ~13 hours due to UF cleaning; Extra power usage on MF due to heating of water for UF CIP	
TOTAL (kw-hr)		1,942	12,638	376	75	15,031	5,330	11,995	17,325	19,140	21,676	7,530	2,530	80,701	83,231	56,068	58,598		
AVERAGE (kw-hr/MG)		140	913	27	5	1,086	393	885	1,278	1,496	1,665	289	97	3,099	3,196	2,153	2,250		

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Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor			
Total Daily Power Consumption (W-hr) (June 2012)																			
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments	
6/1/2012	346.82	199,139	483,747	14,400	2,880	700,166	171,593	468,854	640,447	692,067	844,410	270,463	84,614	3,147,553	3,232,167	2,194,951	2,279,565	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
6/2/2012	685.87	61,680	483,747	14,400	2,880	562,707	195,472	468,854	664,326	789,280	882,624	306,784	98,816	3,205,721	3,304,537	2,253,120	2,351,936		
6/3/2012	707.57	61,660	483,747	14,400	2,880	562,687	192,328	468,854	661,182	784,432	888,944	307,104	105,532	3,204,349	3,309,881	2,251,748	2,357,280		
6/4/2012	694.28	62,040	483,747	14,400	2,880	563,067	191,472	468,854	660,326	780,416	887,264	306,912	93,976	3,197,985	3,291,961	2,245,384	2,339,360		
6/5/2012	695.82	61,440	483,747	14,400	2,880	562,467	192,840	468,854	661,694	780,752	924,640	306,632	99,264	3,236,185	3,335,449	2,283,584	2,382,848		
6/6/2012	693.39	225,440	483,747	14,400	2,880	726,467	194,256	468,854	663,110	783,472	955,936	306,184	98,072	3,435,169	3,533,241	2,482,568	2,580,640	Extra power usage on MF due to heating water for ROB CIP	
6/7/2012	700.85	206,870	141,093	4,200	840	353,003	193,672	468,854	662,526	771,984	287,168	178,672	102,482	2,253,353	2,355,835	1,643,406	1,745,888	MF and ROB offline for ~17 hours, UV offline for ~9 hours; Extra power usage on MF due to heating water for ROB CIP	
6/8/2012	365.15	94,873	201,561	6,000	1,200	303,634	81,749	195,356	277,105	329,711	402,290	128,852	41,344	1,441,593	1,482,937	1,044,675	1,086,019	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period. All systems offline ~ 14 hours.	
6/9/2012	691.19	61,360	483,747	14,400	2,880	562,387	195,800	468,854	664,654	768,512	914,272	289,416	99,536	3,199,241	3,298,777	2,246,640	2,346,176		
6/10/2012	716.41	62,080	483,747	14,400	2,880	563,107	192,720	468,854	661,574	760,928	906,752	297,752	99,320	3,190,113	3,289,433	2,237,512	2,336,832		
6/11/2012	697.37	57,680	443,435	13,200	2,640	516,955	192,160	429,783	621,943	709,040	847,584	278,160	97,680	2,973,682	3,071,362	2,100,464	2,198,144	All systems offline for ~2 hours	
6/12/2012	487.45	44,900	342,654	10,200	2,040	399,794	186,976	332,105	519,081	538,336	643,904	193,656	87,924	2,294,771	2,382,695	1,620,012	1,707,936	All systems offline for ~7 hours	
6/13/2012	709.75	62,400	483,747	14,400	2,880	563,427	195,144	468,854	663,998	760,880	911,040	293,600	98,536	3,192,945	3,291,481	2,240,344	2,338,880		
6/14/2012	764.56	61,500	483,747	14,400	2,880	562,527	197,608	468,854	666,462	765,648	918,464	294,976	98,220	3,208,077	3,306,297	2,255,476	2,353,696		
6/15/2012	664.89	43,190	342,654	10,200	2,040	398,084	140,856	332,105	472,961	530,512	637,696	203,840	80,306	2,243,093	2,323,399	1,568,334	1,648,640	All systems offline for ~7 hours	
6/16/2012	704.58	63,030	483,747	14,400	2,880	564,057	194,096	468,854	662,950	762,384	915,008	289,344	100,746	3,193,743	3,294,489	2,241,142	2,341,888		
6/17/2012	712.99	63,070	483,747	14,400	2,880	564,097	198,912	468,854	667,766	758,896	912,224	290,128	101,634	3,193,111	3,294,745	2,240,510	2,342,144		
6/18/2012	672.25	62,910	423,279	12,600	2,520	501,309	195,512	410,247	605,759	743,760	869,216	286,992	105,050	3,007,036	3,112,086	2,173,510	2,278,560		
6/19/2012	684.73	27,660	201,561	6,000	1,200	236,421	175,960	195,356	371,316	311,440	370,368	125,976	80,916	1,415,521	1,496,437	1,018,604	1,099,520	All systems offline for ~14 hours due to leak at chlorine pump	
6/20/2012	487.38	44,850	282,186	8,400	1,680	337,116	185,944	273,498	459,442	540,592	639,200	212,632	94,734	2,188,982	2,283,716	1,633,298	1,728,032	All systems offline for ~7 hours due to leak at chlorine pump	
6/21/2012	733.28	62,110	483,747	14,400	2,880	563,137	198,024	468,854	666,878	758,400	902,496	293,648	104,042	3,184,559	3,288,601	2,231,958	2,336,000		
6/22/2012	737.44	52,960	403,123	12,000	2,400	470,483	191,312	390,712	582,024	632,768	748,832	254,056	96,872	2,688,163	2,785,035	1,894,328	1,991,200	All systems offline for ~4 hours	
6/23/2012	676.15	52,794	403,123	12,000	2,400	470,316	168,320	390,712	559,032	644,640	767,122	249,601	88,724	2,690,711	2,779,435	1,896,876	1,985,600	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period. All systems offline ~4 hours.	
6/24/2012	2.64	4,710	0	0	0	4,710	161,752	0	161,752	4,320	3,904	11,736	68,170	186,422	254,592	186,422	254,592	All systems offline all day	
6/25/2012	27.66	26,080	181,405	5,400	1,080	213,965	173,080	175,820	348,900	272,048	317,600	114,584	80,944	1,267,098	1,348,042	909,872	990,816	All systems offline for ~15 hours	
6/26/2012	665.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Power Outage plant shutdown
6/27/2012	685.98	61,690	483,747	14,400	2,880	562,717	195,016	468,854	663,870	754,192	888,736	299,000	102,966	3,168,515	3,271,481	2,215,914	2,318,880		
6/28/2012	694.48	61,270	483,747	14,400	2,880	562,297	196,408	468,854	665,262	753,328	888,032	298,856	100,058	3,167,775	3,267,833	2,215,174	2,315,232		
6/29/2012	715.90	53,739	423,279	12,600	2,520	492,138	172,266	410,247	582,514	660,731	778,878	262,122	87,795	2,776,382	2,864,178	1,942,856	2,030,651	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period. All systems offline ~3 hours for maintenance.	
6/30/2012	686.19	53,739	423,279	12,600	2,520	492,138	172,266	410,247	582,514	660,731	778,878	262,122	87,795	2,776,382	2,864,178	1,942,856	2,030,651	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period. All systems offline ~3 hours for maintenance.	
TOTAL (kw-hr)		2,057	11,469	341	68	13,935	5,294	11,448	16,741	18,804	21,633	7,214	2,686	78,328	81,014	55,412	58,098		
AVERAGE (kw-hr/MG)		164	913	27	5	1,109	409	885	1,294	1,615	1,825	300	112	3,258	3,370	2,305	2,417		

City of San Diego
Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
Advanced Water Purification Facility
Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor	Calculated	Calculated	Power Monitor	Power Monitor	Power Monitor	Calculated	Calculated	Calculated	Calculated	Power Monitor			
Total Daily Power Consumption (W-hr) (July 2012)																			
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments	
7/1/2012	686.30	61,530	443,435	13,200	2,640	520,805	196,080	429,783	625,863	748,160	890,592	305,432	103,774	3,090,852	3,194,626	2,217,634	2,321,408	Shutdown for ~2hrs due to pump failure.	
7/2/2012	683.71	61,110	483,747	14,400	2,880	562,137	201,600	468,854	670,454	745,968	887,264	303,472	104,778	3,169,295	3,274,073	2,216,694	2,321,472		
7/3/2012	626.00	56,419	443,435	13,200	2,640	515,694	180,859	429,783	610,642	693,690	817,729	275,197	92,209	2,912,952	3,005,161	2,039,734	2,131,943	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period. All systems offline ~2 hours.	
7/4/2012	685.74	61,200	483,747	14,400	2,880	562,227	193,360	468,854	662,214	751,520	894,976	894,976	-	3,765,913	3,270,681	2,813,312	2,318,080		
7/5/2012	757.62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Plant shutdown due to pump failures & EDR exercises
7/6/2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Plant shutdown all weekend due to comm. Failures
7/7/2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Plant shutdown all weekend due to comm. Failures
7/8/2012		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Plant shutdown all weekend due to comm. Failures
7/9/2012		39,430	0	0	0	39,430	185,136	0	185,136	457,504	540,192	540,192	-	1,762,454	1,512,256	1,762,454	1,512,256	Plant shutdown all weekend due to comm. Failures	
7/10/2012	742.63	55,610	483,747	14,400	2,880	556,637	193,720	468,854	662,574	665,296	774,976	774,976	-	3,434,459	3,029,017	2,481,858	2,076,416		
7/11/2012	714.10	61,120	483,747	14,400	2,880	562,147	197,656	468,854	666,510	738,112	861,312	296,784	103,768	3,124,865	3,228,633	2,172,264	2,276,032		
7/12/2012	761.65	61,480	483,747	14,400	2,880	562,507	196,784	468,854	665,638	739,328	866,816	294,720	104,936	3,129,009	3,233,945	2,176,408	2,281,344		
7/13/2012	682.49	56,229	483,747	14,400	2,880	557,256	179,975	468,854	648,830	676,177	792,775	269,546	94,497	2,944,584	3,039,081	1,991,982	2,086,479	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
7/14/2012	686.46	56,229	483,747	14,400	2,880	557,256	179,975	468,854	648,830	676,177	792,775	269,546	94,497	2,944,584	3,039,081	1,991,982	2,086,479	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
7/15/2012	685.26	60,740	483,747	14,400	2,880	561,767	198,480	468,854	667,334	736,368	858,240	293,688	100,804	3,117,397	3,218,201	2,164,796	2,265,600		
7/16/2012	673.47	60,350	483,747	14,400	2,880	567,377	197,352	468,854	666,206	738,448	860,032	292,096	99,210	3,118,159	3,217,369	2,165,558	2,264,768		
7/17/2012	717.20	61,350	483,747	14,400	2,880	562,377	196,960	468,854	665,814	746,112	870,400	294,984	99,506	3,139,687	3,239,193	2,187,086	2,286,592		
7/18/2012	738.82	60,480	483,747	14,400	2,880	561,507	193,464	468,854	662,318	748,800	874,368	296,856	104,688	3,143,849	3,248,537	2,191,248	2,295,936		
7/19/2012	673.81	55,550	483,747	14,400	2,880	556,577	189,304	468,854	658,158	675,040	786,144	268,320	101,418	2,944,239	3,045,657	1,991,638	2,093,056		
7/20/2012	727.18	60,900	483,747	14,400	2,880	561,927	193,320	468,854	662,174	743,360	865,920	294,632	102,156	3,128,013	3,230,169	2,175,412	2,277,568		
7/21/2012	684.05	60,900	483,747	14,400	2,880	561,927	193,320	468,854	662,174	743,360	865,920	294,632	102,156	3,128,013	3,230,169	2,175,412	2,277,568	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
7/22/2012	684.88	61,300	483,747	14,400	2,880	562,327	197,592	468,854	666,446	743,776	876,040	293,424	93,852	3,142,013	3,235,865	2,189,412	2,283,264		
7/23/2012	712.83	60,420	483,747	14,400	2,880	561,447	194,792	468,854	663,646	743,328	869,120	291,856	103,140	3,129,397	3,232,537	2,176,796	2,279,936		
7/24/2012	396.00	48,760	382,967	11,400	2,280	445,407	190,976	371,176	562,152	588,160	688,096	231,080	97,424	2,514,895	2,612,319	1,760,752	1,858,176	Plant shutdown ~5 hrs due to pump failure while operator not present	
7/25/2012	658.36	60,700	483,747	14,400	2,880	561,727	194,464	468,854	663,318	745,968	878,144	294,824	99,884	3,143,981	3,243,865	2,191,380	2,291,264		
7/26/2012	682.36	60,480	483,747	14,400	2,880	561,507	198,288	468,854	667,142	742,096	871,552	295,184	101,328	3,137,481	3,238,809	2,184,880	2,286,208		
7/27/2012	674.07	56,448	483,747	14,400	2,880	557,475	185,069	468,854	653,923	692,623	813,449	275,505	93,421	2,992,975	3,086,396	2,040,373	2,133,794	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
7/28/2012	684.54	56,448	483,747	14,400	2,880	557,475	185,069	468,854	653,923	692,623	813,449	275,505	93,421	2,992,975	3,086,396	2,040,373	2,133,794	Power totals not available. Values estimated based on runtime and typical power usage for 24 hour period.	
7/29/2012	684.37	60,620	483,747	14,400	2,880	561,647	196,928	468,854	665,782	737,920	863,840	293,712	99,908	3,122,901	3,222,809	2,170,300	2,270,208		
7/30/2012	652.18	60,270	483,747	14,400	2,880	561,297	198,392	468,854	667,246	735,520	862,400	291,488	100,058	3,117,951	3,218,009	2,165,350	2,265,408		
7/31/2012	724.27	60,780	483,747	14,400	2,880	561,807	201,760	468,854	670,614	734,832	861,920	289,488	99,668	3,118,661	3,218,329	2,166,060	2,265,728		
TOTAL (kw-hr)		1,577	12,396	369	74	14,416	5,211	12,014	17,225	19,180	22,498	9,092	2,390	82,412	83,651	58,001	59,241		
AVERAGE (kw-hr/MG)		116	913	27	5	1,061	384	885	1,268	1,497	1,756	355	93	3,216	3,264	2,263	2,312		

City of San Diego
 Indirect Potable Reuse/Reservoir Augmentation Demonstration Project
 Advanced Water Purification Facility
 Demonstration Facility Power Consumption - With MF/UF Feed Pumping Power Consumption Measured from EDR Feed Pump

Total Monthly Power Consumption (kW-hr/month)																			
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP Process without MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments	
Aug-11		1,621	12,114	361	72	14,168	3,953	12,190	16,143	14,379	18,086	6,553	0	69,328	0	45,024	0		
Sep-11		1,668	11,449	341	68	13,526	4,027	11,213	15,241	17,180	17,051	5,261	0	68,260	0	45,597	0		
Oct-11		2,438	11,953	356	71	14,818	5,561	13,460	19,021	21,951	22,211	8,619	0	86,619	0	61,206	0		
Nov-11		1,566	12,860	383	77	14,885	5,593	12,464	18,056	21,265	22,443	8,328	0	84,978	0	59,654	0		
Dec-11		1,811	14,271	425	85	16,591	6,337	13,753	20,090	25,762	27,547	8,907	3,179	98,898	102,077	70,874	74,053		
Jan-12		1,720	14,331	427	85	16,563	6,902	13,890	20,791	25,372	27,084	8,797	3,246	98,608	101,855	70,387	73,634		
Feb-12		1,737	13,948	415	83	16,184	7,554	13,519	21,073	25,643	26,880	8,918	3,011	98,698	101,709	71,231	74,242		
Mar-12		2,277	14,996	446	89	17,809	7,342	14,124	21,466	24,706	26,606	8,896	3,308	99,484	102,792	70,363	73,672		
Apr-12		3,401	14,210	423	85	18,119	7,225	13,773	20,998	22,720	27,345	8,988	3,442	98,168	101,610	70,186	73,627		
May-12		1,942	12,638	376	75	15,031	5,330	11,995	17,325	19,140	21,676	7,530	2,530	80,701	83,231	56,068	58,598		
Jun-12		2,057	11,469	341	68	13,935	5,294	11,448	16,741	18,804	21,633	7,214	2,686	78,328	81,014	55,412	58,098		
Jul-12		1,577	12,396	369	74	14,416	5,211	12,014	17,225	19,180	22,498	9,092	2,390	82,412	83,651	58,001	59,241		
TOTAL POWER (kw-hr)		23,816	156,633	4,663	933	186,044	70,327	153,843	224,170	256,102	281,061	97,104		1,044,481		734,005			
TOTAL FLOWS TREATED (gallons)		171,609,583	171,609,583	171,609,583	171,609,583	171,609,583	173,906,250	173,906,250	173,906,250	161,187,500	162,020,833	323,708,333	323,708,333	323,708,333	323,708,333	323,708,333	323,708,333		
AVERAGE (kw-hr/MG)		139	913	27	5	1,084	404	885	1,289	1,589	1,735	300		3,227		2,267			

Average Power Consumption per Treated Flow (kW-hr/MG)																		
Date	Purified Water Flow (gpm)	MF Power Monitor (a)	MF Feed Pumping (b)	MF Control Panel (c)	MF Air Dryer (d)	Total MF (e) = (a)+(b)+(c)+(d)	UF Power Monitor (f)	UF Feed Pumping (g)	Total UF (h) = (f)+(g)	RO Train A Power Monitor (i)	RO Train B Power Monitor (j)	UV/AOP Power Monitor (k)	Ancillary Loads (l) = (p)-(o)	Total AWP Processes Including MF/UF Feed Pumping (m) = (e)+(h)+(i)+(j)+(k)	Total AWP Including MF/UF Feed Pumping (n) = (p)+(b)+(g)	Total AWP Process without MF/UF Feed Pumping (o) = (m)-(b)-(g)	Total AWP without MF/UF Feed Pumping (Main Power Monitor) (p)	Comments
Aug-11		122	913	27	5	1,067	287	885	1,171	1,150	1,447	262	0	2,773	0	1,801	0	
Sep-11		133	913	27	5	1,078	318	885	1,202	1,516	1,505	243	0	3,150	0	2,104	0	
Oct-11		186	913	27	5	1,132	365	885	1,250	1,644	1,663	323	0	3,243	0	2,292	0	
Nov-11		111	913	27	5	1,056	397	885	1,282	1,600	1,688	313	0	3,197	0	2,244	0	
Dec-11		116	913	27	5	1,061	408	885	1,292	1,764	1,876	305	109	3,386	3,495	2,427	2,535	
Jan-12		110	913	27	5	1,055	440	885	1,324	1,713	1,828	297	110	3,329	3,438	2,376	2,486	
Feb-12		114	913	27	5	1,059	494	885	1,379	1,779	1,865	309	104	3,423	3,527	2,470	2,575	
Mar-12		139	913	27	5	1,084	460	885	1,344	1,594	1,717	287	107	3,209	3,316	2,270	2,377	
Apr-12		218	913	27	5	1,164	464	885	1,349	1,608	1,894	306	117	3,342	3,459	2,389	2,506	
May-12		140	913	27	5	1,086	393	885	1,278	1,496	1,665	289	97	3,099	3,196	2,153	2,250	
Jun-12		164	913	27	5	1,109	409	885	1,294	1,615	1,825	300	112	3,258	3,370	2,305	2,417	
Jul-12		116	913	27	5	1,061	384	885	1,268	1,497	1,756	355	93	3,216	3,264	2,263	2,312	
AVERAGE		139	913	27	5	1,084	402	885	1,286	1,581	1,727	299	71	3,219	3,383	2,332	2,432	

