

Deficit Example of Simple Model of Intermittent Wind and Solar Generation vs. Fossil Generation and Indian Point Shutdown

Date Time (EDT)	Generation Load (MW)	Total Load (MW)	Fossil Load (MW)	Onshore Wind Load (MW)	Offshore CLCPA wind	CLCPA solar Load (MW)	CLCPA Margin Load (MW)	Buoy Wind Speed (m/s)	Hub Wind Speed (m/s)	Solar Irradiance W/m2	CLCPA Renewables - Fossil and Indian Point (MW Margin)
8/8/2018 03:00	14873	16,821	7364	960	7,596	0	-875	6.0	7.9	0	-875
8/8/2018 03:05	15067	16,781	7467	960	7,596	0	-978	6.0	7.9	0	-978
8/8/2018 03:10	15017	16,734	7456	960	7,596	0	-967	6.0	7.9	0	-967
8/8/2018 03:15	15004	16,754	7456	920	7,596	0	-1,007	6.0	7.9	0	-1,007
8/8/2018 03:20	14999	16,747	7476	840	7,596	0	-1,107	6.0	7.9	0	-1,107
8/8/2018 03:25	14983	16,744	7495	800	7,596	0	-1,166	6.0	7.9	0	-1,166
8/8/2018 03:30	14928	16,722	7477	800	7,596	0	-1,148	6.0	7.9	0	-1,148
8/8/2018 03:35	14914	16,689	7451	780	7,596	0	-1,142	6.0	7.9	0	-1,142
8/8/2018 03:40	14911	16,619	7468	720	7,596	0	-1,219	6.0	7.9	0	-1,219
8/8/2018 03:45	14911	16,659	7485	660	7,596	0	-1,296	6.0	7.9	0	-1,296
8/8/2018 03:50	14948	16,610	7519	600	7,596	0	-1,390	6.0	7.9	0	-1,390
8/8/2018 03:55	14941	16,614	7510	600	7,596	0	-1,381	6.0	7.9	0	-1,381
8/8/2018 04:00	14934	16,655	7512	700	1,024	0	-7,855	3.1	4.1	0	-7,855
8/8/2018 04:05	14984	16,604	7516	840	1,024	0	-7,719	3.1	4.1	0	-7,719
8/8/2018 04:10	15014	16,608	7524	880	1,024	0	-7,687	3.1	4.1	0	-7,687
8/8/2018 04:15	15104	16,674	7560	840	1,024	0	-7,763	3.1	4.1	0	-7,763
8/8/2018 04:20	15121	16,668	7591	740	1,024	0	-7,894	3.1	4.1	0	-7,894
8/8/2018 04:25	15126	16,639	7632	640	1,024	0	-8,035	3.1	4.1	0	-8,035
8/8/2018 04:30	15092	16,612	7617	560	1,024	0	-8,100	3.1	4.1	0	-8,100
8/8/2018 04:35	15119	16,621	7628	540	1,024	0	-8,131	3.1	4.1	0	-8,131
8/8/2018 04:40	15136	16,684	7635	560	1,024	0	-8,118	3.1	4.1	0	-8,118
8/8/2018 04:45	15107	16,693	7635	580	1,024	0	-8,098	3.1	4.1	0	-8,098
8/8/2018 04:50	15146	16,720	7635	640	1,024	0	-8,038	3.1	4.1	0	-8,038
8/8/2018 04:55	15160	16,728	7622	680	1,024	0	-7,985	3.1	4.1	0	-7,985
8/8/2018 05:00	15170	16,807	7624	600	4,197	0	-4,894	4.5	5.9	0	-4,894
8/8/2018 05:05	15169	16,847	7609	600	4,197	0	-4,879	4.5	5.9	0	-4,879
8/8/2018 05:10	15207	16,948	7643	680	4,197	0	-4,833	4.5	5.9	0	-4,833
8/8/2018 05:15	15272	16,982	7718	740	4,197	0	-4,848	4.5	5.9	0	-4,848
8/8/2018 05:20	15320	17,013	7780	740	4,197	0	-4,910	4.5	5.9	0	-4,910
8/8/2018 05:25	15388	17,116	7858	760	4,197	0	-4,968	4.5	5.9	0	-4,968
8/8/2018 05:30	15458	17,166	7931	720	4,197	0	-5,081	4.5	5.9	0	-5,081
8/8/2018 05:35	15577	17,231	8012	720	4,197	0	-5,162	4.5	5.9	0	-5,162
8/8/2018 05:40	15664	17,282	8077	660	4,197	0	-5,287	4.5	5.9	0	-5,287
8/8/2018 05:45	15793	17,334	8168	680	4,197	0	-5,358	4.5	5.9	0	-5,358
8/8/2018 05:50	15900	17,416	8270	740	4,197	0	-5,400	4.5	5.9	0	-5,400
8/8/2018 05:55	15964	17,447	8337	760	4,197	0	-5,447	4.5	5.9	0	-5,447
8/8/2018 06:00	15922	17,512	8307	800	2,157	750	-6,667	3.6	4.8	50	-6,667
8/8/2018 06:05	15821	17,554	8257	760	2,157	750	-6,657	3.6	4.8	50	-6,657
8/8/2018 06:10	15769	17,704	8253	720	2,157	750	-6,693	3.6	4.8	50	-6,693
8/8/2018 06:15	15923	17,824	8357	840	2,157	750	-6,677	3.6	4.8	50	-6,677
8/8/2018 06:20	16086	17,912	8420	1320	2,157	750	-6,260	3.6	4.8	50	-6,260
8/8/2018 06:25	16130	18,028	8459	1300	2,157	750	-6,319	3.6	4.8	50	-6,319
8/8/2018 06:30	16124	18,099	8452	1200	2,157	2,250	-4,912	3.6	4.8	150	-4,912

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8/8/2018 06:35	16291	18,150	8550	1140	2,157	2,250	-5,070	3.6	4.8	150	-5,070
8/8/2018 06:40	16451	18,287	8657	1120	2,157	2,250	-5,197	3.6	4.8	150	-5,197
8/8/2018 06:45	16541	18,391	8759	1160	2,157	2,250	-5,259	3.6	4.8	150	-5,259
8/8/2018 06:50	16786	18,474	8878	1200	2,157	2,250	-5,338	3.6	4.8	150	-5,338
8/8/2018 06:55	17051	18,659	9009	1140	2,157	2,250	-5,529	3.6	4.8	150	-5,529
8/8/2018 07:00	17109	18,735	9049	1060	798	3,000	-6,258	3.0	4.0	200	-6,258
8/8/2018 07:05	17198	18,920	9046	940	798	3,000	-6,375	3.0	4.0	200	-6,375
8/8/2018 07:10	17417	19,132	9131	820	798	3,000	-6,580	3.0	4.0	200	-6,580
8/8/2018 07:15	17643	19,262	9262	680	798	3,000	-6,851	3.0	4.0	200	-6,851
8/8/2018 07:20	17819	19,414	9378	520	798	3,000	-7,127	3.0	4.0	200	-7,127
8/8/2018 07:25	18039	19,545	9509	460	798	3,000	-7,318	3.0	4.0	200	-7,318
8/8/2018 07:30	18341	19,650	9605	440	798	3,750	-6,684	3.0	4.0	250	-6,684
8/8/2018 07:35	18333	19,781	9705	540	798	3,750	-6,684	3.0	4.0	250	-6,684
8/8/2018 07:40	18306	19,918	9771	600	798	3,750	-6,690	3.0	4.0	250	-6,690
8/8/2018 07:45	18339	19,965	9857	560	798	3,750	-6,816	3.0	4.0	250	-6,816
8/8/2018 07:50	18606	20,128	10044	600	798	3,750	-6,963	3.0	4.0	250	-6,963
8/8/2018 07:55	18818	20,204	10214	700	798	3,750	-7,033	3.0	4.0	250	-7,033
8/8/2018 08:00	18973	20,399	10362	680	3,064	4,500	-4,185	4.0	5.3	300	-4,185
8/8/2018 08:05	19364	20,443	10710	660	3,064	4,500	-4,553	4.0	5.3	300	-4,553
8/8/2018 08:10	19743	20,669	10936	640	3,064	4,500	-4,799	4.0	5.3	300	-4,799
8/8/2018 08:15	19980	20,759	11092	580	3,064	4,500	-5,015	4.0	5.3	300	-5,015
8/8/2018 08:20	20135	20,923	11245	540	3,064	4,500	-5,208	4.0	5.3	300	-5,208
8/8/2018 08:25	20220	20,976	11351	560	3,064	4,500	-5,294	4.0	5.3	300	-5,294
8/8/2018 08:30	20318	21,022	11446	520	3,064	6,000	-3,929	4.0	5.3	400	-3,929
8/8/2018 08:35	20321	21,143	11507	460	3,064	6,000	-4,050	4.0	5.3	400	-4,050
8/8/2018 08:40	20297	21,286	11542	480	3,064	6,000	-4,065	4.0	5.3	400	-4,065
8/8/2018 08:45	20367	21,332	11595	540	3,064	6,000	-4,058	4.0	5.3	400	-4,058
8/8/2018 08:50	20388	21,399	11665	540	3,064	6,000	-4,128	4.0	5.3	400	-4,128
8/8/2018 08:55	20351	21,490	11674	540	3,064	6,000	-4,137	4.0	5.3	400	-4,137
8/8/2018 09:00	20472	21,578	11768	540	2,611	8,250	-2,434	3.8	5.0	550	-2,434
8/8/2018 09:05	20585	21,618	11915	480	2,611	8,250	-2,641	3.8	5.0	550	-2,641
8/8/2018 09:10	20557	21,772	11956	500	2,611	8,250	-2,662	3.8	5.0	550	-2,662
8/8/2018 09:15	20602	21,856	11974	700	2,611	8,250	-2,480	3.8	5.0	550	-2,480
8/8/2018 09:20	20682	21,975	12026	660	2,611	8,250	-2,572	3.8	5.0	550	-2,572
8/8/2018 09:25	20750	22,037	12073	760	2,611	8,250	-2,519	3.8	5.0	550	-2,519
8/8/2018 09:30	20884	22,133	12151	840	2,611	8,250	-2,517	3.8	5.0	550	-2,517
8/8/2018 09:35	20908	22,214	12206	960	2,611	8,250	-2,452	3.8	5.0	550	-2,452
8/8/2018 09:40	20965	22,276	12234	1100	2,611	8,250	-2,340	3.8	5.0	550	-2,340
8/8/2018 09:45	21018	22,364	12265	1480	2,611	8,250	-1,991	3.8	5.0	550	-1,991