

## Appendix – Errata

### Section 3, Energy Market

**Change:** On page 116 update Table 3-14 as shown below:

**Table 3-14 PJM real-time average hourly generation and real-time average hourly generation plus average hourly imports: 2000 through 2017**

	PJM Real-Time Supply (MWh)				Year-to-Year Change			
	Generation		Generation Plus		Generation		Generation Plus Imports	
	Generation	Standard Deviation	Supply	Standard Deviation	Generation	Standard Deviation	Supply	Standard Deviation
2001	29,553	4,937	32,552	5,285	NA	NA	NA	NA
2002	34,928	7,535	38,535	7,751	18.2%	52.6%	18.4%	46.7%
2003	36,628	6,165	40,205	6,162	4.9%	(18.2%)	4.3%	(20.5%)
2004	51,068	13,790	55,781	14,652	39.4%	123.7%	38.7%	137.8%
2005	81,127	15,452	86,353	15,981	58.9%	12.0%	54.8%	9.1%
2006	82,780	13,709	86,978	14,402	2.0%	(11.3%)	0.7%	(9.9%)
2007	85,860	14,018	90,351	14,763	3.7%	2.3%	3.9%	2.5%
2008	83,476	13,787	88,899	14,256	(2.8%)	(1.7%)	(1.6%)	(3.4%)
2009	78,026	13,647	83,058	14,140	(6.5%)	(1.0%)	(6.6%)	(0.8%)
2010	82,585	15,556	87,386	16,227	5.8%	14.0%	5.2%	14.8%
2011	85,775	15,932	90,511	16,759	3.9%	2.4%	3.6%	3.3%
2012	88,708	15,701	94,083	16,505	3.4%	(1.4%)	3.9%	(1.5%)
2013	89,769	15,012	94,833	15,878	1.2%	(4.4%)	0.8%	(3.8%)
2014	90,894	15,151	96,295	16,199	1.3%	0.9%	1.5%	2.0%
2015	88,628	16,118	94,330	17,313	(2.5%)	6.4%	(2.0%)	6.9%
2016	91,304	17,731	95,054	17,980	3.0%	10.0%	0.8%	3.9%
2017	90,945	15,194	92,721	15,493	(0.4%)	(14.3%)	(2.5%)	(13.8%)

**Change:** On page 117 update Table 3-15 as shown below:

**Table 3-15 PJM day-ahead average hourly supply and day-ahead average hourly supply plus average hourly imports: 2000 through 2017**

	PJM Day-Ahead Supply (MWh)				Year-to-Year Change			
	Supply		Supply Plus Imports		Supply		Supply Plus Imports	
	Supply	Standard Deviation	Supply	Standard Deviation	Supply	Standard Deviation	Supply	Standard Deviation
2001	26,762	4,595	27,497	4,664	NA	NA	NA	NA
2002	31,434	10,007	31,982	10,015	17.5%	117.8%	16.3%	114.7%
2003	40,642	8,292	41,183	8,287	29.3%	(17.1%)	28.8%	(17.3%)
2004	62,755	17,141	63,654	17,362	54.4%	106.7%	54.6%	109.5%
2005	94,438	17,204	96,449	17,462	50.5%	0.4%	51.5%	0.6%
2006	100,056	16,543	102,164	16,559	5.9%	(3.8%)	5.9%	(5.2%)
2007	108,707	16,549	111,023	16,729	8.6%	0.0%	8.7%	1.0%
2008	105,485	15,994	107,885	16,136	(3.0%)	(3.4%)	(2.8%)	(3.5%)
2009	97,388	16,364	100,022	16,397	(7.7%)	2.3%	(7.3%)	1.6%
2010	107,307	21,655	110,026	21,837	10.2%	32.3%	10.0%	33.2%
2011	117,130	20,977	119,501	21,259	9.2%	(3.1%)	8.6%	(2.6%)
2012	134,479	17,905	136,903	18,080	14.8%	(14.6%)	14.6%	(15.0%)
2013	148,323	18,783	150,595	18,978	10.3%	4.9%	10.0%	5.0%
2014	146,672	33,145	148,906	33,346	(1.1%)	76.5%	(1.1%)	75.7%
2015	114,890	19,165	117,147	19,406	(21.7%)	(42.2%)	(21.3%)	(41.8%)
2016	131,618	22,329	133,246	22,368	14.6%	16.5%	13.7%	15.3%
2017	130,603	20,035	131,142	20,153	(0.8%)	(10.3%)	(1.6%)	(9.9%)

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**Change:** On page 124 update Table 3-21 as shown below:

**Table 3-21 PJM day-ahead average demand and day-ahead average hourly demand plus average hourly exports: 2000 through 2017**

	PJM Day-Ahead Demand (MWh)				Year-to-Year Change			
	Demand		Demand Plus Exports		Demand		Demand Plus Exports	
	Demand	Standard Deviation	Demand	Standard Deviation	Demand	Standard Deviation	Demand	Standard Deviation
2001	33,370	6,562	33,757	6,431	NA	NA	NA	NA
2002	42,305	10,161	42,413	10,208	26.8%	54.8%	25.6%	58.7%
2003	44,674	7,841	44,807	7,811	5.6%	(22.8%)	5.6%	(23.5%)
2004	62,101	16,654	63,455	17,730	39.0%	112.4%	41.6%	127.0%
2005	93,534	17,643	96,447	17,952	50.6%	5.9%	52.0%	1.3%
2006	98,527	16,723	101,592	17,197	5.3%	(5.2%)	5.3%	(4.2%)
2007	105,503	16,686	108,932	17,030	7.1%	(0.2%)	7.2%	(1.0%)
2008	101,903	15,871	105,368	16,119	(3.4%)	(4.9%)	(3.3%)	(5.3%)
2009	94,941	15,869	98,094	15,999	(6.8%)	(0.0%)	(6.9%)	(0.7%)
2010	103,937	21,358	108,069	21,640	9.5%	34.6%	10.2%	35.3%
2011	113,866	20,708	117,681	20,929	9.6%	(3.0%)	8.9%	(3.3%)
2012	131,612	17,421	134,947	17,527	15.6%	(15.9%)	14.7%	(16.3%)
2013	144,858	18,489	148,132	18,570	10.1%	6.1%	9.8%	6.0%
2014	142,251	32,664	146,120	32,671	(1.8%)	76.7%	(1.4%)	75.9%
2015	111,644	18,716	114,827	18,872	(21.5%)	(42.7%)	(21.4%)	(42.2%)
2016	127,374	21,513	130,808	21,803	14.1%	14.9%	13.9%	15.5%
2017	125,794	19,402	128,757	19,625	(1.2%)	(9.8%)	(1.6%)	(10.0%)

**Change:** On page 144, update paragraph as follows:

Table 3-46 shows the average number of units that made hourly differentiated offers in the day-ahead market or rebid period. In December 2017 an average of ~~173~~ 215 units made hourly differentiated offers.

**Change:** On page 144, update Table 3-46 as follows:

	2017		Total
	Natural Gas	Other Fuels	
Jan	0.0	0.0	0.0
Feb	0.0	0.0	0.0
Mar	0.0	0.0	0.0
Apr	0.0	0.0	0.0
May	0.0	0.0	0.0
Jun	0.0	0.0	0.0
Jul	0.0	0.0	0.0
Aug	0.0	0.0	0.0
Sep	0.0	0.0	0.0
Oct	0.0	0.0	0.0
Nov	212.8 <del>176</del>	10.7 <del>5</del>	223.5 <del>181</del>
Dec	200.7 <del>165</del>	14.4 <del>9</del>	215.1 <del>173</del>

## Section 7, Net Revenue

**Change:** On page 329 update Table 7-28 as shown below:

**Table 7-28 Net revenue by quartile for select technologies: 2017**

		(\$/MW-Yr)									
		Energy and ancillary service net revenue				Capacity revenue			Energy, ancillary, and capacity revenue		
Technology	Total Installed Capacity (ICAP)	New entrant	First quartile	Median	Third quartile	First quartile	Median	Third quartile	First quartile	Median	Third quartile
CC - Combined Cycle	56,286	\$70,144	\$96	\$27,121	\$47,120	\$13,886	\$22,265	\$46,672	\$44,468	\$55,014	\$71,718
CT - Aero Derivative	5,997	\$20,364	(\$771)	\$1,371	\$5,893	\$38,273	\$45,964	\$50,371	\$41,187	\$47,832	\$53,162
CT - Industrial Frame	21,317	-	(\$965)	\$1,094	\$3,078	\$36,208	\$43,859	\$49,862	\$36,694	\$45,074	\$50,927
Coal Fired	52,495	\$24,051	(\$1,469)	\$7,067	\$23,949	\$42,546	\$45,689	\$48,955	\$43,470	\$52,944	\$67,864
Diesel	412	\$2,487	(\$854)	\$2,803	\$23,702	\$39,596	\$43,668	\$49,099	\$41,896	\$48,685	\$65,270
Hydro	2,750 <del>9,236</del>	-	\$68,168	\$96,524	\$124,393	\$4,950	\$42,702	\$46,271	\$100,176	\$121,108	\$169,918
Nuclear	33,732	\$181,724	\$171,676	\$178,304	\$195,883	\$34,579	\$42,922	\$43,668	\$206,255	\$221,011	\$236,337
Oil or Gas Steam	8,178	-	(\$2,571)	(\$773)	\$1,919	\$33,438	\$42,754	\$47,424	\$34,829	\$43,621	\$49,002
Pumped Storage	4,721 <del>31,091</del>	-	\$49,623	\$49,623	\$121,759	\$5,432	\$6,265	\$42,640	\$55,055	\$80,528	\$127,934

**Change:** On page 330 update Table 7-29 as shown below:

**Table 7-29 Avoidable cost recovery by quartile: 2017**

Technology	Total Installed Capacity (ICAP)	Recovery of avoidable costs from energy and ancillary net revenue			Recovery of avoidable costs from all markets		
		First quartile	Median	Third quartile	First quartile	Median	Third quartile
CC - Combined Cycle	56,286	1%	182%	362%	283%	424%	545%
CT - Aero Derivative	5,997	0%	10%	41%	295%	341%	386%
CT - Industrial Frame	21,317	0%	11%	27%	340%	427%	481%
Coal Fired	52,495	0%	10%	38%	74%	87%	117%
Diesel	412	0%	25%	212%	386%	443%	583%
Hydro	2,750 <del>9,236</del>	225%	319%	411%	331%	400%	561%
Nuclear	33,732	73%	85%	89%	85%	100%	102%
Oil or Gas Steam	8,178	0%	0%	6%	139%	161%	183%
Pumped Storage	4,721 <del>31,091</del>	397%	397%	973%	440%	749%	1023%

**Change:** On page 331, update paragraph as follows:

Table 7-32 shows the surplus or shortfall for nineteen nuclear plants in PJM calculated using this data. In Table 7-32, six nuclear plants with a total capacity of ~~7,058~~ 7,673 MW did not recover their avoidable costs in two of the last three years **assuming avoidable costs are equal to fuel costs, operating costs, and 50 percent of capital expenditures**. If it is assumed that nuclear plants incurred 100 percent of their 2016 NEI incremental capital expenditures and that these costs are appropriately considered avoidable costs, nine plants with a total capacity of 14,027 MW did not recover their avoidable costs in two of the last three years.

**Change:** On page 332 update paragraph as follows:

Table 7-33 shows PJM energy prices (LMP), capacity prices (BRA), and annual fuel, operating and capital expenditures for the 2018 through 2020 period. The LMPs are based

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on forward prices with a basis adjustment for the specific plant locations. The 2018 LMPs include DA prices through January 2018 and forward prices for February through December 2018. The capacity prices are known based on PJM capacity auction results.

**Change:** On page 333 update Table 7-33 as shown below:

**Table 7-33 Forward prices in PJM energy and capacity markets and annual costs**

	ICAP	Average Forward LMP (\$/MWh)			BRA Capacity Price (\$/MWh)			2016 NEI Costs (\$/MWh)		
		2018	2019	2020	2018	2019	2020	Fuel	Operating	Capital
Beaver Valley	1,777	\$33.18	\$29.80	\$29.63	\$6.09	\$5.29	\$3.60	\$6.75	\$18.73	\$6.15
Braidwood	2,330	\$26.19	\$25.16	\$24.99	\$7.31	\$8.66	\$8.09	\$6.75	\$18.73	\$6.15
Byron	2,300	\$26.37	\$24.95	\$24.84	\$7.31	\$8.66	\$8.09	\$6.75	\$18.73	\$6.15
Calvert Cliffs	1,716	\$36.28	\$31.57	\$31.37	\$6.09	\$5.30	\$3.83	\$6.75	\$18.73	\$6.15
Cook	2,071	\$30.82	\$29.19	\$29.03	\$6.09	\$5.29	\$3.60	\$6.75	\$18.73	\$6.15
Davis Besse	894	\$32.33	\$30.00	\$29.83	\$6.09	\$5.29	\$3.60	\$6.77	\$25.95	\$8.67
Dresden	1,787	\$28.68	\$27.44	\$27.29	\$7.31	\$8.66	\$8.09	\$6.75	\$18.73	\$6.15
Hope Creek	1,161	\$32.53	\$27.64	\$27.45	\$7.56	\$6.82	\$6.65	\$6.75	\$18.73	\$6.15
LaSalle	2,238	\$26.25	\$25.21	\$25.04	\$7.31	\$8.66	\$8.09	\$6.75	\$18.73	\$6.15
Limerick	2,296	\$32.97	\$28.06	\$27.87	\$7.56	\$6.82	\$6.65	\$6.75	\$18.73	\$6.15
North Anna	1,891	\$36.08	\$31.26	\$31.06	\$6.09	\$5.29	\$3.60	\$6.75	\$18.73	\$6.15
Oyster Creek	615	\$33.31	\$28.37	\$28.18	\$7.56	\$6.82	\$6.65	\$6.77	\$25.95	\$8.67
Quad Cities	1,819	\$25.79	\$24.65	\$24.52	\$7.31	\$8.66	\$8.09	\$6.75	\$18.73	\$6.15
Peach Bottom	2,251	\$32.41	\$27.67	\$27.48	\$7.56	\$6.82	\$6.65	\$6.75	\$18.73	\$6.15
Perry	1,240	\$34.29	\$30.65	\$30.47	\$6.09	\$5.29	\$3.60	\$6.77	\$25.95	\$8.67
Salem	2,332	\$32.51	\$27.62	\$27.43	\$7.56	\$6.82	\$6.65	\$6.75	\$18.73	\$6.15
Surry	1,690	\$35.71	\$30.87	\$30.67	\$6.09	\$5.29	\$3.60	\$6.75	\$18.73	\$6.15
Susquehanna	2,520	\$32.62	\$27.83	\$27.64	\$6.09	\$5.29	\$3.83	\$6.75	\$18.73	\$6.15
Three Mile Island	805	\$32.28	\$27.58	\$27.41	\$6.09	\$5.29	\$3.83	\$6.77	\$25.95	\$8.67

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**Change:** On page 333 update Table 7-34 as shown below:

**Table 7-34 Forward annual surplus (shortfall) in \$/MWh**

	Surplus (Shortfall) (\$/MWh)								
	100% of NEI Capital Costs			2/3 of NEI Capital Costs			1/3 of NEI Capital Costs		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Beaver Valley	\$7.64	\$3.46	\$1.59	\$9.69	\$5.51	\$3.64	\$11.74	\$7.56	\$5.69
Braidwood	\$1.87	\$2.19	\$1.45	\$3.92	\$4.24	\$3.50	\$5.97	\$6.29	\$5.55
Byron	\$2.04	\$1.98	\$1.30	\$4.09	\$4.03	\$3.35	\$6.14	\$6.08	\$5.40
Calvert Cliffs	\$10.73	\$5.24	\$3.58	\$12.78	\$7.29	\$5.63	\$14.83	\$9.34	\$7.68
Cook	\$5.28	\$2.85	\$0.99	\$7.33	\$4.90	\$3.04	\$9.38	\$6.95	\$5.09
Davis Besse	(\$2.97)	(\$6.10)	(\$7.97)	(\$0.08)	(\$3.21)	(\$5.08)	\$2.81	(\$0.32)	(\$2.19)
Dresden	\$4.36	\$4.47	\$3.75	\$6.41	\$6.52	\$5.80	\$8.46	\$8.57	\$7.85
Hope Creek	\$8.46	\$2.84	\$2.46	\$10.51	\$4.89	\$4.51	\$12.56	\$6.94	\$6.56
LaSalle	\$1.93	\$2.24	\$1.50	\$3.98	\$4.29	\$3.55	\$6.03	\$6.34	\$5.60
Limerick	\$8.91	\$3.25	\$2.88	\$10.96	\$5.30	\$4.93	\$13.01	\$7.35	\$6.98
North Anna	\$10.54	\$4.92	\$3.03	\$12.59	\$6.97	\$5.08	\$14.64	\$9.02	\$7.13
Oyster Creek	(\$0.52)	(\$6.19)	(\$6.56)	\$2.37	(\$3.30)	(\$3.67)	\$5.26	(\$0.41)	(\$0.78)
Quad Cities	\$1.47	\$1.68	\$0.98	\$3.52	\$3.73	\$3.03	\$5.57	\$5.78	\$5.08
Peach Bottom	\$8.35	\$2.87	\$2.50	\$10.40	\$4.92	\$4.55	\$12.45	\$6.97	\$6.60
Perry	(\$1.02)	(\$5.45)	(\$7.32)	\$1.87	(\$2.56)	(\$4.43)	\$4.76	\$0.33	(\$1.54)
Salem	\$8.44	\$2.82	\$2.44	\$10.49	\$4.87	\$4.49	\$12.54	\$6.92	\$6.54
Surry	\$10.17	\$4.53	\$2.64	\$12.22	\$6.58	\$4.69	\$14.27	\$8.63	\$6.74
Susquehanna	\$7.08	\$1.49	(\$0.16)	\$9.13	\$3.54	\$1.89	\$11.18	\$5.59	\$3.94
Three Mile Island	(\$3.02)	(\$8.52)	(\$10.16)	(\$0.13)	(\$5.63)	(\$7.27)	\$2.76	(\$2.74)	(\$4.38)

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**Change:** On page 334 update Table 7-35 as shown below:

**Table 7-35 Forward annual surplus (shortfall) (\$ in millions)**

	Surplus (Shortfall) (\$ in millions)								
	100% of NEI Capital Costs			2/3 of NEI Capital Costs			1/3 of NEI Capital Costs		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Beaver Valley	\$118.9	\$53.9	\$24.8	\$150.8	\$85.8	\$56.7	\$182.7	\$117.7	\$88.6
Braidwood	\$38.1	\$44.7	\$29.6	\$80.0	\$86.5	\$71.4	\$121.8	\$128.3	\$113.2
Byron	\$41.2	\$39.9	\$26.3	\$82.5	\$81.2	\$67.6	\$123.8	\$122.5	\$108.9
Calvert Cliffs	\$161.4	\$78.7	\$53.8	\$192.2	\$109.5	\$84.6	\$223.0	\$140.4	\$115.4
Cook	\$95.8	\$51.8	\$18.0	\$133.0	\$89.0	\$55.2	\$170.2	\$126.1	\$92.4
Davis Besse	(\$23.3)	(\$47.8)	(\$62.4)	(\$0.6)	(\$25.2)	(\$39.8)	\$22.0	(\$2.5)	(\$17.1)
Dresden	\$68.3	\$70.0	\$58.8	\$100.4	\$102.1	\$90.8	\$132.5	\$134.1	\$122.9
Hope Creek	\$86.1	\$28.9	\$25.0	\$106.9	\$49.7	\$45.9	\$127.8	\$70.6	\$66.7
LaSalle	\$37.8	\$43.9	\$29.4	\$78.0	\$84.1	\$69.6	\$118.2	\$124.3	\$109.8
Limerick	\$179.1	\$65.4	\$57.9	\$220.4	\$106.6	\$99.2	\$261.6	\$147.9	\$140.4
North Anna	\$174.6	\$81.6	\$50.1	\$208.6	\$115.5	\$84.1	\$242.5	\$149.5	\$118.0
Oyster Creek	(\$2.8)	(\$33.3)	(\$35.3)	\$12.8	(\$17.8)	(\$19.8)	\$28.3	(\$2.2)	(\$4.2)
Quad Cities	\$23.4	\$26.8	\$15.6	\$56.1	\$59.4	\$48.3	\$88.7	\$92.1	\$80.9
Peach Bottom	\$164.6	\$56.6	\$49.2	\$205.0	\$97.0	\$89.7	\$245.4	\$137.4	\$130.1
Perry	(\$11.0)	(\$59.2)	(\$79.5)	\$20.4	(\$27.8)	(\$48.1)	\$51.7	\$3.6	(\$16.7)
Salem	\$172.5	\$57.6	\$49.9	\$214.3	\$99.4	\$91.8	\$256.2	\$141.3	\$133.7
Surry	\$150.6	\$67.1	\$39.1	\$180.9	\$97.4	\$69.4	\$211.3	\$127.8	\$99.8
Susquehanna	\$156.2	\$32.8	(\$3.6)	\$201.5	\$78.1	\$41.7	\$246.7	\$123.3	\$86.9
Three Mile Island	(\$21.3)	(\$60.1)	(\$71.6)	(\$0.9)	(\$39.7)	(\$51.2)	\$19.5	(\$19.3)	(\$30.9)