

Forward Looking EAS Offset

MIC Special Session
June 10, 2020

IMM



Monitoring Analytics

IMM Method

- **Forward energy net revenue offset for use in capacity market**
- **Forward energy prices**
 - **Western Hub forward prices from Platts**
 - **Calculated at bus level**
 - **Historical hourly price spread**
- **Forward gas prices from Platts**
 - **Calculated at locational level**
 - **Historical hourly price spread**

IMM Method

- **Reference CT and CC unit optimally dispatched using new entrant parameters (2019 State of the Market Report, Section 7: Net Revenue)**
- **Optimal dispatch**
- **Ancillary revenues are reactive capability payments**
 - **Average of recent FERC decisions/settlements**
 - **Currently \$3,350/MW-Year of reactive capability revenue**

Issues

- **Historical time period for calculation of hourly basis adjustment for energy and gas forwards**
- **Location(s) of CT**
 - **CONE areas**
 - **Zones**
- **Date of forwards for energy and gas**
- **Period of forwards**
 - **Delivery year**
- **Cost-based offers**

Issues

- **Apply forward looking net revenue calculation in all cases:**
 - **Net CONE in VRR curve**
 - **MOPR floors**
 - **Market seller offer caps**
 - **Unit specific reviews**
 - **Default net CONE and net ACR**
- **Actual units**
 - **Parameters**
 - **Cost-based offers**
- **IMM calculation for all units**



Results

- **Historical hourly price spreads applied to forward prices for reference CT and CC to create forward hourly prices and forward marginal costs for dispatch**
- **Gas and Western Hub forwards as of June 3, 2020**
- **Basis differentials and E&AS calculated using:**
 - **2017 history**
 - **2018 history**
 - **2019 history**
 - **Average of three years**

Forward E&AS: Combustion Turbine

Zone	Combustion Turbine (CT) (\$/MW-Yr)				
	3 Year Historical Avg 2017-2019	3 Year Forward Avg 2021-2023 Forwards as of June 3, 2020			Avg 2021-2023 Basis 2017-2019
		2017 Basis	2018 Basis	2019 Basis	
AECO	\$32,574	\$25,451	\$32,554	\$25,045	\$27,684
AEP	\$54,690	\$41,478	\$48,183	\$46,147	\$45,269
APS	\$51,768	\$59,879	\$65,408	\$58,456	\$61,248
ATSI	\$60,382	\$52,657	\$65,702	\$53,368	\$57,242
BGE	\$45,211	\$46,038	\$50,557	\$46,625	\$47,740
ComEd	\$29,428	\$34,690	\$28,049	\$34,719	\$32,486
DAY	\$59,999	\$51,166	\$60,727	\$59,828	\$57,240
DEOK	\$60,407	\$47,292	\$60,704	\$53,702	\$53,900
DLCO	\$48,243	\$32,586	\$48,591	\$32,742	\$37,973
Dominion	\$46,875	\$45,910	\$52,625	\$46,030	\$48,188
DPL	\$24,245	\$24,040	\$35,552	\$27,188	\$28,927
EKPC	\$44,149	\$56,290	\$69,020	\$47,547	\$57,619
JCPL	\$32,771	\$27,924	\$29,983	\$23,963	\$27,290
Met-Ed	\$46,651	\$41,592	\$40,495	\$36,186	\$39,424
PECO	\$39,180	\$35,251	\$36,790	\$29,896	\$33,979
PENELEC	\$66,285	\$56,917	\$64,162	\$51,180	\$57,420
Pepco	\$33,018	\$40,418	\$45,411	\$40,723	\$42,184
PPL	\$59,766	\$49,302	\$50,351	\$42,650	\$47,434
PSEG	\$44,637	\$34,817	\$35,520	\$28,084	\$32,807
RECO	\$34,918	\$30,262	\$34,721	\$27,763	\$30,915
PJM	\$45,760	\$41,698	\$47,755	\$40,592	\$43,349



Forward E&AS: Combined Cycle

Zone	Combined Cycle (CC) (\$/MW-Yr)				
	3 Year Historical Avg 2017-2019	3 Year Forward Avg 2021-2023 Forwards as of June 3, 2020			Avg 2021-2023 Basis 2017-2019
		2017 Basis	2018 Basis	2019 Basis	
AECO	\$59,904	\$45,369	\$51,949	\$42,524	\$46,614
AEP	\$84,738	\$76,387	\$80,618	\$80,766	\$79,257
APS	\$89,471	\$97,446	\$99,970	\$97,414	\$98,277
ATSI	\$89,403	\$92,244	\$99,719	\$92,443	\$94,802
BGE	\$84,981	\$71,116	\$74,830	\$69,978	\$71,975
ComEd	\$50,012	\$67,912	\$54,507	\$67,380	\$63,266
DAY	\$90,200	\$91,824	\$95,833	\$100,418	\$96,025
DEOK	\$89,119	\$85,656	\$92,662	\$92,635	\$90,318
DLCO	\$74,768	\$63,327	\$76,321	\$64,750	\$68,133
Dominion	\$77,141	\$77,967	\$83,414	\$77,392	\$79,591
DPL	\$35,737	\$39,185	\$52,147	\$35,144	\$42,158
EKPC	\$73,889	\$88,149	\$97,429	\$74,859	\$86,812
JCPL	\$60,229	\$47,959	\$48,056	\$42,287	\$46,101
Met-Ed	\$72,925	\$71,531	\$68,404	\$69,819	\$69,918
PECO	\$66,078	\$65,971	\$65,323	\$60,895	\$64,063
PENELEC	\$92,641	\$92,919	\$97,000	\$89,355	\$93,091
Pepco	\$69,227	\$65,593	\$69,323	\$64,292	\$66,403
PPL	\$82,473	\$81,667	\$77,529	\$76,117	\$78,438
PSEG	\$72,645	\$58,428	\$56,051	\$51,161	\$55,214
RECO	\$62,231	\$51,487	\$52,988	\$49,744	\$51,407
PJM	\$73,891	\$71,607	\$74,704	\$69,969	\$72,093



Forward E&AS: CT & CC

	\$/MW-Day	
	CT	CC
Gross CONE (ICAP)	\$294	\$320
E&AS Revenues (historical)	\$125	\$202
Net CONE (ICAP) (historical)	\$169	\$118
E&AS Revenues (forward)	\$119	\$198
Net CONE (ICAP) (forward)	\$175	\$122

Forward E&AS: CT & CC

- E&AS forward revenues are the average results of forward dispatch using 2017 as the basis year, 2018 as the basis year, and 2019 as the basis year
- For the CT, $\$43,349/\text{MW-Yr} = \$119/\text{MW-Day}$
- For the CC, $\$72,093/\text{MW-Yr} = \$198/\text{MW-Day}$



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