

Estimated Impact of Reactive Offset on Capacity Market Results

RPCTF

September 28, 2022

IMM



Monitoring Analytics

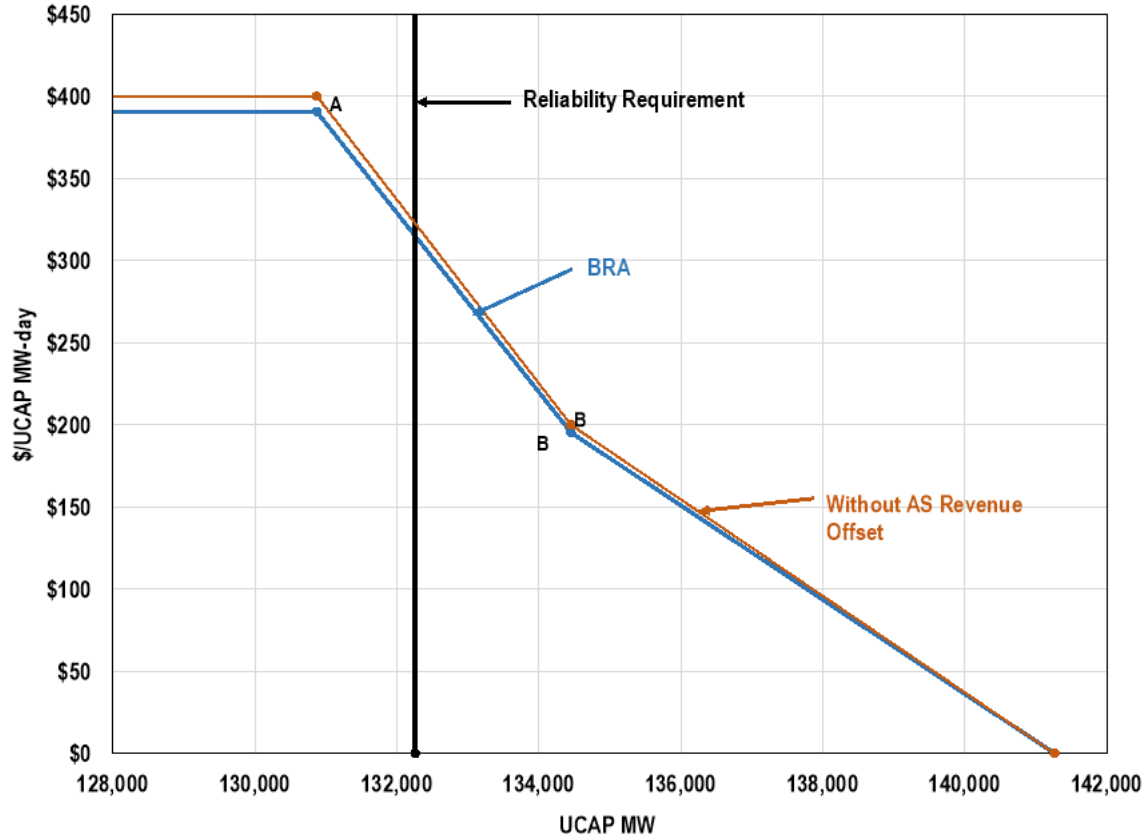
Reactive Compensation

- **The IMM recommends that separate cost of service payments for reactive capability be eliminated.**
- **The IMM recommends that the corresponding energy and ancillary services offsets in the capacity market be eliminated.**
- **The IMM has estimated the approximate impact of removing the reactive related net revenue offsets from the capacity market.**
- **The impact is the same order of magnitude as the current total cost of service payments to reactive.**
- **Reactive capability payments were \$367M in 2021.**

Impact on Capacity Market

- **The IMM estimated the impact of the reactive revenue offset on the clearing prices and load payments for the last three capacity market base residual auctions.**
- **The \$2,199 per MW-Year ancillary services revenue offset removed from the VRR curves.**
- **Average reactive revenue removed from all generation offers.**

VRR curve for 2022/2023 BRA



Impact on Clearing Prices: 2023/2024 BRA

LDA	Actual	Scenario	Change	Percent Change
RTO	\$34.13	\$38.62	\$4.49	13.2%
ATSI	\$34.13	\$38.62	\$4.49	13.2%
COMED	\$34.13	\$38.62	\$4.49	13.2%
MAAC	\$49.49	\$54.97	\$5.48	11.1%
ATSI-CLEVELAND	\$34.13	\$38.62	\$4.49	13.2%
DAY	\$34.13	\$38.62	\$4.49	13.2%
DEOK	\$34.13	\$38.62	\$4.49	13.2%
EMAAC	\$49.49	\$54.97	\$5.48	11.1%
PPL	\$49.49	\$54.97	\$5.48	11.1%
SWMAAC	\$49.49	\$54.97	\$5.48	11.1%
DPL-SOUTH	\$69.95	\$75.43	\$5.48	7.8%
PSEG	\$49.49	\$54.97	\$5.48	11.1%
BGE	\$69.95	\$75.43	\$5.48	7.8%
PEPCO	\$49.49	\$54.97	\$5.48	11.1%
PS-NORTH	\$49.49	\$54.97	\$5.48	11.1%

Impact on Load Payments: 2023/2024 BRA

Load Payments (\$ per Day)

	Cleared Resources	Makewhole Payments	Total
Actual	\$5,987,550	\$13,666	\$6,001,215
Scenario	\$6,694,388	\$23,672	\$6,718,060

Load Payments (\$ per Year)

Days in DY	366		
	Cleared Resources	Makewhole Payments	Total
Actual	\$2,191,443,140	\$5,001,651	\$2,196,444,791
Scenario	\$2,450,145,945	\$8,663,851	\$2,458,809,796
			\$262,365,006
	Change from Actual to Scenario		11.9%
	Change from Scenario to Actual		(10.7%)

Impact on Clearing Prices: 2022/2023 BRA

LDA	Actual (\$ per MW-day)	Scenario (\$ per MW-day)	Change (\$ per MW-day)	Percent Change
RTO	\$50.00	\$54.79	\$4.79	9.6%
ATSI	\$50.00	\$54.79	\$4.79	9.6%
COMED	\$68.96	\$73.83	\$4.87	7.1%
MAAC	\$95.79	\$99.14	\$3.35	3.5%
ATSI-CLEVELAND	\$50.00	\$54.79	\$4.79	9.6%
DAY	\$50.00	\$54.79	\$4.79	9.6%
DEOK	\$71.69	\$76.08	\$4.39	6.1%
EMAAC	\$97.86	\$103.18	\$5.32	5.4%
PPL	\$95.79	\$99.14	\$3.35	3.5%
SWMAAC	\$95.79	\$99.14	\$3.35	3.5%
DPL-SOUTH	\$97.86	\$103.18	\$5.32	5.4%
PSEG	\$97.86	\$103.18	\$5.32	5.4%
BGE	\$126.50	\$131.98	\$5.48	4.3%
PEPCO	\$95.79	\$99.14	\$3.35	3.5%
PS-NORTH	\$97.86	\$103.18	\$5.32	5.4%

Impact on Load Payments: 2022/2023 BRA

Load Payments (\$ per Day)			
	Cleared Resources	Makewhole Payments	Total
Actual	\$10,729,731	\$1,749	\$10,731,480
Scenario	\$11,384,429	\$2,588	\$11,387,017
Revenue Summary (\$/DY)			
Days in DY	365		
	Clrd Res Rev	MWP Rev	Total
Actual	\$3,916,351,775	\$638,527	\$3,916,990,303
Scenario	\$4,155,316,709	\$944,508	\$4,156,261,216
			\$239,270,914
	Change from Actual to Scenario		6.1%
	Change from Scenario to Actual		(5.8%)

Impact on Clearing Prices: 2021/2022 BRA

LDA	Actual (\$ per MW-day)	Scenario (\$ per MW-day)	Change (\$ per MW-day)	Percent Change
RTO	\$140.00	\$145.48	\$5.48	3.9%
ATSI	\$171.33	\$175.07	\$3.74	2.2%
COMED	\$195.55	\$199.16	\$3.61	1.8%
MAAC	\$140.00	\$145.48	\$5.48	3.9%
ATSI-CLEVELAND	\$171.33	\$175.07	\$3.74	2.2%
DAY	\$140.00	\$145.48	\$5.48	3.9%
DEOK	\$140.00	\$145.48	\$5.48	3.9%
EMAAC	\$165.73	\$171.21	\$5.48	3.3%
PPL	\$140.00	\$145.48	\$5.48	3.9%
SWMAAC	\$140.00	\$145.48	\$5.48	3.9%
DPL-SOUTH	\$165.73	\$171.21	\$5.48	3.3%
PSEG	\$204.29	\$208.25	\$3.96	1.9%
BGE	\$200.30	\$204.74	\$4.44	2.2%
PEPCO	\$140.00	\$145.48	\$5.48	3.9%
PS-NORTH	\$204.29	\$208.25	\$3.96	1.9%

Impact on Load Payments: 2021/2022 BRA

Load Payments (\$ per Day)

	Cleared Resources	Makewhole Payments	Total
Actual	\$25,478,094	\$3,761	\$25,481,855
Scenario	\$26,394,472	\$3,767	\$26,398,239

Load Payments (\$ per Year)

Days in DY	365		
	Cleared Resources	Makewhole Payments	Total
Actual	\$9,299,504,396	\$1,372,710	\$9,300,877,106
Scenario	\$9,633,982,218	\$1,374,843	\$9,635,357,061
			\$334,479,955
	Change from Actual to Scenario		3.6%
	Change from Scenario to Actual		(3.5%)

Summary of Impacts on Clearing Prices

LDA	2023/2024 BRA (\$ per Year)			2022/2023 BRA (\$ per Year)			2021/2022 BRA (\$ per Year)		
	Actual	Scenario	Change	Actual	Scenario	Change	Actual	Scenario	Change
RTO	\$34.13	\$38.62	\$4.49	\$50.00	\$54.79	\$4.79	\$140.00	\$145.48	\$5.48
ATSI	\$34.13	\$38.62	\$4.49	\$50.00	\$54.79	\$4.79	\$171.33	\$175.07	\$3.74
COMED	\$34.13	\$38.62	\$4.49	\$68.96	\$73.83	\$4.87	\$195.55	\$199.16	\$3.61
MAAC	\$49.49	\$54.97	\$5.48	\$95.79	\$99.14	\$3.35	\$140.00	\$145.48	\$5.48
ATSI-CLEVELAND	\$34.13	\$38.62	\$4.49	\$50.00	\$54.79	\$4.79	\$171.33	\$175.07	\$3.74
DAY	\$34.13	\$38.62	\$4.49	\$50.00	\$54.79	\$4.79	\$140.00	\$145.48	\$5.48
DEOK	\$34.13	\$38.62	\$4.49	\$71.69	\$76.08	\$4.39	\$140.00	\$145.48	\$5.48
EMAAC	\$49.49	\$54.97	\$5.48	\$97.86	\$103.18	\$5.32	\$165.73	\$171.21	\$5.48
PPL	\$49.49	\$54.97	\$5.48	\$95.79	\$99.14	\$3.35	\$140.00	\$145.48	\$5.48
SWMAAC	\$49.49	\$54.97	\$5.48	\$95.79	\$99.14	\$3.35	\$140.00	\$145.48	\$5.48
DPL-SOUTH	\$69.95	\$75.43	\$5.48	\$97.86	\$103.18	\$5.32	\$165.73	\$171.21	\$5.48
PSEG	\$49.49	\$54.97	\$5.48	\$97.86	\$103.18	\$5.32	\$204.29	\$208.25	\$3.96
BGE	\$69.95	\$75.43	\$5.48	\$126.50	\$131.98	\$5.48	\$200.30	\$204.74	\$4.44
PEPCO	\$49.49	\$54.97	\$5.48	\$95.79	\$99.14	\$3.35	\$140.00	\$145.48	\$5.48
PS-NORTH	\$49.49	\$54.97	\$5.48	\$97.86	\$103.18	\$5.32	\$204.29	\$208.25	\$3.96

Summary of Impacts on Load Payments

	2023/2024 BRA	2022/2023 BRA	2021/2022 BRA
Actual (\$ per Year)	\$2,196,444,791	\$3,916,990,303	\$9,300,877,106
Scenario (\$ per Year)	\$2,458,809,796	\$4,156,261,216	\$9,635,357,061
Change (\$ per Year)	\$262,365,006	\$239,270,914	\$334,479,955
Percent Change from Actual to Scenario	11.9%	6.1%	3.6%
Percent Change from Scenario to Actual	(10.7%)	(5.8%)	(3.5%)

Monitoring Analytics, LLC

2621 Van Buren Avenue

Suite 160

Eagleville, PA

19403

(610) 271-8050

MA@monitoringanalytics.com

www.MonitoringAnalytics.com

