

ARR/FTR Market Design and Design Components: IMM Proposals

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PJM ARR Proposal

- **PJM's proposals to address misalignments of ARR rights relative to congestion paid:**
 - **Guarantee 60 percent of Network Service Peak Load**
 - **Expanded source/sink combinations in ARR allocation**

Issues with PJM Stage 1A ARR Proposal

- **Guarantee 60 percent of Network Service Peak Load**
 - **Will expand Stage 1A overallocation**
 - **Stage 1A overallocations are a significant source of cross subsidies within the current ARR/FTR design**
 - Effect is not uniform across all LSEs
 - **PJM will have to reduce ARR MW/FTR MW elsewhere to guarantee FTR target allocations**
 - Effect is not uniform across all LSEs

PJM Stage 1A Allocation Proposal

Zone	Zonal Base Load: Current Stage 1A MW				PJM Proposal: Stage 1A MW				PJM Proposal Percent Increase in Stage 1 A Nominations			
	18/19	19/20	20/21	21/22	18/19	19/20	20/21	21/22	18/19	19/20	20/21	21/22
AECO	1,011.20	990.50	987.80	921.50	1,524.48	1,554.78	1,642.38	1,580.70	50.8%	57.0%	66.3%	71.5%
AEP	12,482.10	12,855.40	12,171.30	11,526.20	12,988.32	13,643.40	13,498.74	12,968.94	4.1%	6.1%	10.9%	12.5%
APS	4,768.30	4,917.60	4,734.00	4,439.20	5,252.76	5,605.32	5,757.66	5,182.56	10.2%	14.0%	21.6%	16.7%
ATSI	6,368.70	6,618.40	6,209.60	5,634.30	7,230.96	7,694.70	7,540.08	7,479.12	13.5%	16.3%	21.4%	32.7%
BGE	3,012.30	2,994.60	2,982.30	2,925.00	3,868.86	3,975.90	4,023.42	4,020.18	28.4%	32.8%	34.9%	37.4%
COMED	9,171.60	9,229.30	8,924.40	8,234.10	12,210.54	12,809.64	12,569.22	12,132.00	33.1%	38.8%	40.8%	47.3%
DAY	1,570.60	1,634.90	1,572.00	1,439.00	1,935.24	2,002.32	1,955.16	1,985.28	23.2%	22.5%	24.4%	38.0%
DEOK	2,591.00	2,651.30	2,466.20	2,322.80	3,021.60	3,116.94	3,030.96	2,985.00	16.6%	17.6%	22.9%	28.5%
DOM	9,461.20	9,698.60	9,815.70	9,749.70	11,796.84	12,739.20	11,958.30	12,036.36	24.7%	31.4%	21.8%	23.5%
DPL	1,752.70	1,775.80	1,655.80	1,671.20	2,287.50	2,401.38	2,458.68	2,451.36	30.5%	35.2%	48.5%	46.7%
DUQ	1,318.70	1,366.30	1,270.60	1,168.90	1,609.26	1,677.06	1,597.14	1,600.50	22.0%	22.7%	25.7%	36.9%
EKPC	1,268.30	1,249.80	1,167.30	1,160.00	1,716.06	2,058.48	1,844.46	1,631.82	35.3%	64.7%	58.0%	40.7%
JCPL	2,279.00	2,226.00	2,138.90	2,104.30	3,432.60	3,585.90	3,634.26	3,541.92	50.6%	61.1%	69.9%	68.3%
METED	1,427.10	1,514.10	1,403.80	1,358.80	1,738.20	1,816.68	1,791.78	1,785.78	21.8%	20.0%	27.6%	31.4%
OVEC	13.70	29.70	27.00	19.00	17.40	84.30	74.40	64.80	27.0%	183.8%	175.6%	241.1%
PECO	3,891.20	3,873.00	3,716.40	3,565.20	4,884.66	5,164.74	5,056.98	4,888.74	25.5%	33.4%	36.1%	37.1%
PEPCO	2,833.90	2,790.40	2,700.70	2,553.00	3,658.44	3,847.20	3,714.42	3,531.96	29.1%	37.9%	37.5%	38.3%
PPL	3,824.70	3,969.90	3,757.40	3,692.50	4,440.66	4,608.78	4,763.28	4,356.00	16.1%	16.1%	26.8%	18.0%
PENELEC	1,657.50	1,726.10	1,665.20	1,626.00	1,733.94	1,798.32	1,809.00	1,746.78	4.6%	4.2%	8.6%	7.4%
PSEG	4,288.90	4,259.90	4,117.00	3,980.40	5,740.14	5,986.98	5,851.50	5,734.38	33.8%	40.5%	42.1%	44.1%
RECO	143.30	142.70	140.20	134.10	241.02	248.88	235.86	238.50	68.2%	74.4%	68.2%	77.9%
Total	75,136.00	76,514.30	73,623.60	70,225.20	91,329.48	96,420.90	94,807.68	91,942.68	21.6%	26.0%	28.8%	30.9%



Issues with PJM Stage 1A Proposal

Zone	Total Overallocated ARR MW			
	18/19	19/20	20/21	21/22
AECO	23.00	-	-	0.60
AEP	4,394.09	2,242.90	4,610.80	3,423.70
APS	257.40	70.90	533.00	837.70
ATSI	302.60	293.20	814.30	678.60
BGE	67.90	723.70	663.50	979.30
COMED	5,177.20	3,178.90	4,948.40	3,090.90
DAY	590.90	338.20	196.60	257.70
DEOK	738.10	1,869.90	1,126.70	1,456.70
DOM	44.60	125.00	250.90	661.90
DPL	28.16	647.70	-	109.40
DUQ	9.70	55.40	131.90	74.80
EKPC	5.90	53.40	102.40	100.70
JCPL	6.91	391.90	14.70	-
METED	-	206.30	69.10	287.70
OVEC	-	-	-	-
PECO	713.50	161.60	3.20	0.40
PEPCO	58.90	233.70	365.00	287.70
PPL	-	60.90	5.60	0.60
PENELEC	-	104.00	28.80	1,538.50
PSEG	158.23	242.40	114.90	0.20
RECO				
Total	12,577.09	11,000.00	13,979.80	13,787.10

Issues with PJM Proposal: Expanded source/sink combinations in ARR allocation

- **Expanded source/sink combinations in ARR allocation**
 - **Will not improve ARR allocations.**
 - **Will not improve price discovery.**

ARR and FTR Total Congestion Offset for ARR Holders: 2011/2012 through 2020/2021 (\$M)

Revenue									Pre 2017/2018 (Without Balancing)		2017/2018 (With Balancing)		Post 2017/2018 (With Balancing and Surplus)		Effective Offset	
Planning Period	ARR Credits	Unadjusted FTR Credits	Day Ahead Congestion	Balancing + M2M Congestion	Surplus Revenue Total Congestion	Pre 2017/2018 Rules	Surplus Revenue 2017/2018 Rules	Post 2017/2018 Rules	Total ARR/FTR Offset	Percent Offset	Current Revenue Received	Percent Offset	New Revenue Received	New Offset	Cumulative Revenue	Offset
2011/2012	\$515.6	\$310.0	\$1,025.4	(\$275.7)	\$749.7	(\$50.6)	\$35.6	\$113.9	\$775.0	103.4%	\$585.5	78.1%	\$663.8	88.5%	\$775.0	103.4%
2012/2013	\$356.4	\$268.4	\$904.7	(\$379.9)	\$524.8	(\$94.0)	\$18.4	\$62.1	\$530.7	101.1%	\$263.2	50.2%	\$306.9	58.5%	\$530.7	101.1%
2013/2014	\$339.4	\$626.6	\$2,231.3	(\$360.6)	\$1,870.6	(\$139.4)	(\$49.0)	(\$49.0)	\$826.5	44.2%	\$556.3	29.7%	\$556.3	29.7%	\$826.5	44.2%
2014/2015	\$487.4	\$348.1	\$1,625.9	(\$268.3)	\$1,357.6	\$36.7	\$111.2	\$400.6	\$872.2	64.2%	\$678.4	50.0%	\$967.8	71.3%	\$872.2	64.2%
2015/2016	\$641.8	\$209.2	\$1,098.7	(\$147.6)	\$951.1	\$9.2	\$42.1	\$188.9	\$860.2	90.4%	\$745.5	78.4%	\$892.3	93.8%	\$860.2	90.4%
2016/2017	\$648.1	\$149.9	\$885.7	(\$104.8)	\$780.8	\$15.1	\$36.5	\$179.0	\$813.1	104.1%	\$729.6	93.4%	\$872.1	111.7%	\$813.1	104.1%
2017/2018	\$429.6	\$212.3	\$1,322.1	(\$129.5)	\$1,192.6	\$52.3	\$80.4	\$370.7	\$694.2	58.2%	\$592.8	49.7%	\$883.1	74.1%	\$592.8	49.7%
2018/2019	\$531.6	\$130.1	\$832.7	(\$152.6)	\$680.0	(\$5.8)	\$16.2	\$112.2	\$655.87	96.4%	\$525.3	77.2%	\$621.3	91.4%	\$621.3	91.4%
2019/2020	\$547.6	\$91.9	\$612.1	(\$169.4)	\$442.7	(\$1.6)	\$21.6	\$157.8	\$637.9	144.1%	\$491.7	111.1%	\$627.9	141.8%	\$627.9	141.8%
2020/2021	\$392.7	\$179.9	\$899.6	(\$256.2)	\$643.4	(\$43.2)	(\$0.0)	(\$0.0)	\$529.31	82.3%	\$316.4	49.2%	\$316.4	49.2%	\$316.4	49.2%
2021/2022*	\$157.2	\$97.8	\$378.8	(\$46.9)	\$331.9	(\$15.2)	(\$5.1)	(\$5.1)	\$239.7	72.2%	\$202.9	61.1%	\$202.9	61.1%	\$202.9	61.1%
Total	\$5,047.3	\$2,624.1	\$11,816.8	(\$2,291.5)	\$9,525.3	(\$236.6)	\$307.8	\$1,531.0	\$7,434.8	78.1%	\$5,687.6	59.7%	\$6,910.9	72.6%	\$7,039.0	73.9%

* four months of 2021/2022 planning period



Zonal ARR and FTR Total Congestion Offset for ARR Holders: 2020/2021 Planning Period(\$M)

Zone	Adjusted ARR Credits	Adjusted FTR Credits	Balancing+ M2M Charge	Surplus Allocation	Day Ahead Total Offset	Day Ahead Congestion	Balancing Congestion	M2M Payments	Total Congestion	Total Offset
ACEC	\$4.4	\$0.0	(\$2.7)	(\$0.1)	\$1.7	\$8.2	(\$2.3)	(\$0.5)	\$5.5	31.2%
AEP	\$40.2	\$36.4	(\$38.1)	(\$2.4)	\$38.4	\$149.0	(\$32.2)	(\$5.9)	\$110.9	34.6%
APS	\$32.9	\$14.9	(\$14.8)	(\$1.4)	\$33.0	\$60.0	(\$12.5)	(\$2.3)	\$45.2	73.0%
ATSI	\$20.4	\$0.2	(\$19.5)	(\$0.6)	\$1.1	\$70.1	(\$16.4)	(\$3.0)	\$50.6	2.1%
BGE	\$58.4	\$3.6	(\$9.1)	(\$1.7)	\$52.8	\$34.0	(\$7.7)	(\$1.4)	\$24.8	212.7%
COMED	\$36.4	\$11.5	(\$28.5)	(\$1.2)	\$19.4	\$106.8	(\$24.2)	(\$4.4)	\$78.3	24.7%
DAY	\$5.9	\$0.8	(\$5.3)	(\$0.2)	\$1.5	\$16.3	(\$4.5)	(\$0.8)	\$11.0	13.4%
DUKE	\$24.2	\$4.9	(\$8.4)	(\$0.8)	\$20.8	\$25.8	(\$7.1)	(\$1.2)	\$17.4	119.5%
DUQ	\$5.6	\$0.2	(\$4.0)	(\$0.2)	\$1.8	\$10.4	(\$3.4)	(\$0.9)	\$6.2	29.6%
DOM	\$7.7	\$85.7	(\$37.9)	(\$1.9)	\$55.5	\$121.5	(\$32.9)	(\$0.6)	\$87.9	63.1%
DPL	\$28.6	\$8.1	(\$6.7)	(\$0.9)	\$30.1	\$46.9	(\$5.8)	(\$4.9)	\$36.2	83.2%
EKPC	\$3.0	\$0.0	(\$4.2)	(\$0.1)	(\$1.1)	\$12.6	(\$3.6)	(\$0.6)	\$8.4	(13.0%)
EXT	\$0.5	\$0.0	(\$13.8)	(\$0.0)	(\$13.3)	\$24.8	(\$13.8)	\$0.0	\$11.0	(120.7%)
JCPLC	\$6.0	\$0.0	(\$6.1)	(\$0.2)	(\$0.0)	\$19.0	(\$5.0)	(\$1.1)	\$12.9	(0.2%)
MEC	\$3.5	\$0.7	(\$5.3)	(\$0.1)	(\$1.1)	\$21.7	(\$4.6)	(\$0.7)	\$16.5	(6.9%)
OVEC	\$0.0	\$0.0	(\$0.3)	\$0.0	(\$0.3)	\$1.2	(\$0.3)	\$0.0	\$0.9	(28.8%)
PECO	\$15.0	\$0.2	(\$10.9)	(\$0.4)	\$4.2	\$35.8	(\$9.1)	(\$1.8)	\$24.9	17.0%
PE	\$6.1	\$4.9	(\$6.5)	(\$0.3)	\$4.5	\$22.9	(\$5.7)	(\$0.8)	\$16.4	27.3%
PEPCO	\$25.9	\$3.8	(\$8.3)	(\$0.8)	\$21.4	\$28.8	(\$6.9)	(\$1.3)	\$20.5	104.5%
PPL	\$24.3	\$3.4	(\$11.5)	(\$0.7)	\$16.1	\$42.3	(\$9.6)	(\$1.9)	\$30.8	52.4%
PSEG	\$24.7	\$0.0	(\$13.9)	(\$0.7)	\$10.8	\$38.9	(\$11.9)	(\$2.0)	\$25.0	43.2%
REC	\$0.2	\$0.0	(\$0.6)	(\$0.0)	(\$0.4)	\$2.6	(\$0.5)	(\$0.1)	\$2.1	(17.0%)
Total	\$373.9	\$179.3	(\$256.2)	(\$14.5)	\$297.0	\$899.6	(\$219.9)	(\$36.3)	\$643.4	46.2%

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