

## Appendix – Errata/Addendum

### Section 9: Ancillary Services

**Change:** Add the following paragraph and table to page 292.

Table 9-25 shows new black start NERC critical infrastructure protection (CIP) capital costs being recovered by black start units in PJM. These units were located in multiple zones, including ComEd, DEOK, DLCO, JCPL, Met-Ed, PENELEC and Pepco. The CIP costs are recoverable through Schedule 6A of the tariff, and include both physical security and cyber security investments in order to protect black start units deemed critical. CIP costs included the cost of equipment necessary to restrict access to physical sites, as well as the cost of software upgrades necessary to protect cyber assets and monitor unit operations.

**Table 0-25 Black start NERC CIP capital cost recovery in PJM: 2012**

Capital Cost Requested	Cost Recovered in 2012	Number of Units	MW
\$1,736,971	\$150,290	33	678.1

### Section 10: Congestion and Marginal Losses

**Change:** On page 299, updated Table 10-3 as shown below:

	2011								2012			
	Real-Time LMP	Energy Component	Congestion Component	Loss Component	Real-Time LMP	Energy Component	Congestion Component	Loss Component	Real-Time LMP	Energy Component	Congestion Component	Loss Component
AECO	<del>\$57.84</del>	\$53.11	<del>\$50.14</del>	\$46.83	<del>\$4.95</del>	\$3.92	<del>\$2.75</del>	\$2.37	\$37.55	\$35.86	\$0.23	\$1.46
AEP	<del>\$42.97</del>	\$40.92	<del>\$48.64</del>	\$45.26	<del>(\$3.99)</del>	(\$2.91)	<del>(\$1.68)</del>	(\$1.43)	\$33.15	\$34.73	(\$0.75)	(\$0.83)
AP	<del>\$48.57</del>	\$45.49	<del>\$48.99</del>	\$45.56	<del>(\$0.22)</del>	\$0.06	<del>(\$0.20)</del>	(\$0.13)	\$34.86	\$34.91	\$0.04	(\$0.09)
ATSI	<del>\$46.88</del>	\$42.09	<del>\$51.24</del>	\$44.59	<del>(\$3.85)</del>	(\$2.32)	<del>(\$0.51)</del>	(\$0.18)	\$34.42	\$34.99	(\$0.78)	\$0.21
BGE	<del>\$58.74</del>	\$54.27	<del>\$49.82</del>	\$46.40	<del>\$6.62</del>	\$5.74	<del>\$2.30</del>	\$2.14	\$40.03	\$35.44	\$2.99	\$1.59
ComEd	<del>\$38.97</del>	\$36.20	<del>\$49.12</del>	\$45.77	<del>(\$7.32)</del>	(\$6.93)	<del>(\$2.83)</del>	(\$2.64)	\$31.76	\$35.39	(\$2.05)	(\$1.58)
DAY	<del>\$43.90</del>	\$41.78	<del>\$49.40</del>	\$45.94	<del>(\$4.57)</del>	(\$3.40)	<del>(\$0.93)</del>	(\$0.75)	\$34.25	\$35.14	(\$0.95)	\$0.05
DEOK	NA	NA	NA	NA	NA	NA	NA	NA	\$32.67	\$35.16	(\$0.87)	(\$1.62)
DLCO	<del>\$43.30</del>	\$41.31	<del>\$49.12</del>	\$45.73	<del>(\$4.15)</del>	(\$2.98)	<del>(\$1.67)</del>	(\$1.45)	\$33.53	\$35.05	(\$0.47)	(\$1.05)
Dominion	<del>\$54.47</del>	\$50.59	<del>\$49.83</del>	\$46.45	<del>\$4.04</del>	\$3.54	<del>\$0.60</del>	\$0.60	\$37.28	\$35.45	\$1.48	\$0.35
DPL	<del>\$56.76</del>	\$52.20	<del>\$49.95</del>	\$46.54	<del>\$3.82</del>	\$3.05	<del>\$2.99</del>	\$2.60	\$39.53	\$35.53	\$2.31	\$1.68
JCPL	<del>\$58.09</del>	\$53.48	<del>\$50.73</del>	\$47.22	<del>\$4.62</del>	\$3.88	<del>\$2.74</del>	\$2.37	\$37.34	\$35.92	\$0.09	\$1.33
Met-Ed	<del>\$53.64</del>	\$49.51	<del>\$49.22</del>	\$45.82	<del>\$3.42</del>	\$2.87	<del>\$1.00</del>	\$0.82	\$36.30	\$35.11	\$0.67	\$0.53
PECO	<del>\$55.19</del>	\$50.83	<del>\$49.47</del>	\$46.16	<del>\$3.82</del>	\$3.05	<del>\$1.90</del>	\$1.62	\$36.78	\$35.27	\$0.61	\$0.89
PENELEC	<del>\$48.18</del>	\$45.12	<del>\$48.27</del>	\$44.98	<del>(\$0.46)</del>	(\$0.25)	<del>\$0.37</del>	\$0.38	\$35.10	\$34.66	(\$0.12)	\$0.56
Pepco	<del>\$55.74</del>	\$51.84	<del>\$49.82</del>	\$46.47	<del>\$4.63</del>	\$4.17	<del>\$1.26</del>	\$1.20	\$39.08	\$35.47	\$2.68	\$0.93
PPL	<del>\$53.76</del>	\$49.31	<del>\$48.95</del>	\$45.57	<del>\$3.85</del>	\$2.99	<del>\$0.96</del>	\$0.75	\$35.44	\$34.92	\$0.00	\$0.52
PSEG	<del>\$57.16</del>	\$52.68	<del>\$49.71</del>	\$46.36	<del>\$4.78</del>	\$3.96	<del>\$2.67</del>	\$2.35	\$37.48	\$35.38	\$0.71	\$1.39
RECO	<del>\$53.17</del>	\$49.66	<del>\$50.88</del>	\$47.48	<del>(\$0.15)</del>	\$0.02	<del>\$2.44</del>	\$2.16	\$37.80	\$36.09	\$0.42	\$1.29
PJM	<del>\$45.94</del>	\$45.94	<del>\$45.87</del>	\$45.87	<del>\$0.05</del>	\$0.05	<del>\$0.02</del>	\$0.02	\$35.23	\$35.18	\$0.04	\$0.01

## 2012 State of the Market Report for PJM

**Change:** On page 298, updated Table 10-4 as shown below:

	2011								2012			
	Day-Ahead LMP	Energy Component	Congestion Component	Loss Component	Day-Ahead LMP	Energy Component	Congestion Component	Loss Component	Day-Ahead LMP	Energy Component	Congestion Component	Loss Component
AECO	\$57.45	\$53.09	\$49.53	\$46.58	\$4.67	\$3.78	\$3.25	\$2.74	\$37.36	\$35.08	\$0.66	\$1.62
AEP	\$42.90	\$41.12	\$48.10	\$45.12	(\$3.25)	(\$2.39)	(\$1.96)	(\$1.61)	\$32.71	\$34.19	(\$0.51)	(\$0.97)
AP	\$47.66	\$45.10	\$47.96	\$45.08	(\$0.16)	\$0.10	(\$0.16)	(\$0.09)	\$34.29	\$34.26	\$0.09	(\$0.06)
ATSI	\$46.14	\$41.89	\$50.87	\$44.76	(\$3.07)	(\$1.83)	(\$1.66)	(\$1.04)	\$33.55	\$34.32	(\$0.69)	(\$0.08)
BGE	\$57.10	\$53.21	\$49.19	\$46.11	\$5.16	\$4.57	\$2.75	\$2.53	\$39.55	\$34.85	\$2.76	\$1.93
ComEd	\$38.12	\$35.72	\$48.12	\$45.16	(\$6.46)	(\$6.17)	(\$3.55)	(\$3.28)	\$30.72	\$34.60	(\$1.98)	(\$1.90)
DAY	\$43.25	\$41.54	\$48.64	\$45.64	(\$4.21)	(\$3.21)	(\$1.18)	(\$0.89)	\$33.76	\$34.58	(\$0.65)	(\$0.16)
DEOK	NA	NA	NA	NA	NA	NA	NA	NA	\$32.18	\$34.45	(\$0.49)	(\$1.79)
DLCO	\$42.60	\$40.98	\$48.39	\$45.35	(\$4.13)	(\$2.94)	(\$1.67)	(\$1.43)	\$33.05	\$34.42	(\$0.30)	(\$1.07)
Dominion	\$53.16	\$49.78	\$49.11	\$46.13	\$3.35	\$2.97	\$0.70	\$0.68	\$36.56	\$34.76	\$1.31	\$0.48
DPL	\$56.97	\$52.62	\$49.29	\$46.24	\$4.20	\$3.40	\$3.48	\$2.97	\$38.91	\$34.94	\$1.86	\$2.11
JCPL	\$56.24	\$52.22	\$49.45	\$46.47	\$3.73	\$3.08	\$3.06	\$2.67	\$37.03	\$35.10	\$0.47	\$1.47
Met-Ed	\$52.37	\$48.62	\$48.08	\$45.08	\$3.28	\$2.74	\$1.04	\$0.80	\$35.44	\$34.29	\$0.50	\$0.65
PECO	\$55.35	\$51.11	\$48.64	\$45.66	\$4.33	\$3.43	\$2.44	\$2.01	\$36.40	\$34.62	\$0.72	\$1.06
PENELEC	\$47.41	\$44.35	\$47.72	\$44.35	(\$0.56)	(\$0.25)	\$0.24	\$0.24	\$34.69	\$33.95	\$0.12	\$0.62
Pepco	\$54.99	\$51.03	\$48.72	\$45.49	\$4.49	\$3.90	\$1.79	\$1.64	\$38.26	\$34.58	\$2.39	\$1.29
PPL	\$52.82	\$48.69	\$48.27	\$45.23	\$3.63	\$2.79	\$0.93	\$0.67	\$34.82	\$34.22	\$0.12	\$0.48
PSEG	\$56.24	\$52.23	\$48.89	\$45.96	\$4.27	\$3.53	\$3.09	\$2.75	\$37.25	\$34.81	\$0.79	\$1.65
RECO	\$53.55	\$49.96	\$49.45	\$46.39	\$1.75	\$1.48	\$2.35	\$2.10	\$36.91	\$35.20	\$0.34	\$1.36
PJM	\$45.19	\$45.19	\$45.40	\$45.40	(\$0.06)	(\$0.06)	(\$0.16)	(\$0.15)	\$34.55	\$34.46	\$0.11	(\$0.01)

**Change:** On page 306, updated Table 10-14 as shown below:

Congestion Costs (Millions)					
	Congestion Cost	Percent Change	Total PJM Billing	Percent of PJM Billing	
2008	\$2,051.8	NA	\$26,979.0	\$34,306.0	7.6% 6.0%
2009	\$719.0	(65.0%)	\$19,927.0	\$26,550.0	3.6% 2.7%
2010	\$1,423.3	98.0%	\$26,249.0	\$34,771.0	5.4% 4.1%
2011	\$999.0	(29.8%)	\$28,836.0	\$36,887.0	3.5% 2.8%
2012	\$529.0	(47.0%)	\$29,181.0		1.8%

## Appendix G: Congestion and Marginal Losses

Change: On page 306, updated Table G-2 as shown below:

	2011				2012			
	Real-Time LMP	Energy Component	Congestion Component	Loss Component	Real-Time LMP	Energy Component	Congestion Component	Loss Component
AECO	\$47.56	\$42.77	\$2.80	\$1.99	\$34.20	\$33.06	(\$0.09)	\$1.22
AEP	\$39.04	\$42.77	(\$2.41)	(\$1.32)	\$31.70	\$33.06	(\$0.59)	(\$0.77)
AP	\$42.91	\$42.77	\$0.23	(\$0.09)	\$33.08	\$33.06	\$0.09	(\$0.07)
ATSI	\$39.24	\$41.20	(\$1.79)	(\$0.17)	\$32.61	\$33.06	(\$0.64)	\$0.18
BGE	\$49.11	\$42.77	\$4.40	\$1.93	\$37.22	\$33.06	\$2.69	\$1.47
ComEd	\$33.30	\$42.77	(\$6.92)	(\$2.55)	\$29.25	\$33.06	(\$2.23)	(\$1.58)
DAY	\$39.22	\$42.77	(\$2.81)	(\$0.74)	\$32.35	\$33.06	(\$0.74)	\$0.02
DEOK	NA	NA	NA	NA	\$30.91	\$33.06	(\$0.65)	(\$1.51)
DLCO	\$38.98	\$42.77	(\$2.48)	(\$1.31)	\$31.72	\$33.06	(\$0.36)	(\$0.98)
Dominion	<del>\$47.33</del> <del>\$46.38</del>	\$42.77	<del>\$2.32</del> <del>\$3.02</del>	<del>\$2.25</del> <del>\$0.60</del>	<del>\$36.15</del> <del>\$34.69</del>	\$33.06	<del>\$1.64</del> <del>\$1.26</del>	<del>\$1.45</del> <del>\$0.37</del>
DPL	<del>\$46.38</del> <del>\$47.33</del>	\$42.77	<del>\$3.02</del> <del>\$2.32</del>	<del>\$0.60</del> <del>\$2.25</del>	<del>\$34.69</del> <del>\$36.15</del>	\$33.06	<del>\$1.26</del> <del>\$1.64</del>	<del>\$0.37</del> <del>\$1.45</del>
JCPL	\$47.65	\$42.77	\$2.84	\$2.04	\$34.06	\$33.06	(\$0.15)	\$1.15
Met-Ed	\$45.82	\$42.77	\$2.34	\$0.72	\$33.96	\$33.06	\$0.44	\$0.46
PECO	\$46.56	\$42.77	\$2.37	\$1.42	\$34.08	\$33.06	\$0.24	\$0.77
PENELEC	\$42.95	\$42.77	(\$0.19)	\$0.37	\$33.50	\$33.06	(\$0.10)	\$0.54
Pepco	<del>\$45.84</del> <del>\$47.34</del>	\$42.77	<del>\$2.42</del> <del>\$3.44</del>	<del>\$0.65</del> <del>\$1.13</del>	<del>\$33.40</del> <del>\$36.33</del>	\$33.06	<del>(\$0.13)</del> <del>\$2.38</del>	<del>\$0.46</del> <del>\$0.88</del>
PPL	<del>\$48.17</del> <del>\$45.84</del>	\$42.77	<del>\$3.30</del> <del>\$2.42</del>	<del>\$2.10</del> <del>\$0.65</del>	<del>\$34.79</del> <del>\$33.40</del>	\$33.06	<del>\$0.48</del> <del>(\$0.13)</del>	<del>\$1.24</del> <del>\$0.46</del>
PSEG	<del>\$47.34</del> <del>\$48.17</del>	\$42.77	<del>\$3.44</del> <del>\$3.30</del>	<del>\$1.13</del> <del>\$2.10</del>	<del>\$36.33</del> <del>\$34.79</del>	\$33.06	<del>\$2.38</del> <del>\$0.48</del>	<del>\$0.88</del> <del>\$1.24</del>
RECO	\$44.28	\$42.77	(\$0.37)	\$1.88	\$34.36	\$33.06	\$0.17	\$1.13
PJM	\$42.84	\$42.77	\$0.05	\$0.02	\$33.11	\$33.06	\$0.04	\$0.01

Change: On page 306, updated Table G-5 as shown below:

	2011				2012			
	Day-Ahead LMP	Energy Component	Congestion Component	Loss Component	Day-Ahead LMP	Energy Component	Congestion Component	Loss Component
AECO	\$47.86	\$42.72	\$2.84	\$2.30	\$34.36	\$32.72	\$0.28	\$1.36
AEP	\$39.32	\$42.72	(\$1.93)	(\$1.47)	\$31.45	\$32.72	(\$0.37)	(\$0.90)
AP	\$42.96	\$42.72	\$0.29	(\$0.05)	\$32.82	\$32.72	\$0.14	(\$0.04)
ATSI	\$39.34	\$41.59	(\$1.37)	(\$0.88)	\$32.11	\$32.72	(\$0.55)	(\$0.07)
BGE	\$48.66	\$42.72	\$3.69	\$2.25	\$36.91	\$32.72	\$2.42	\$1.77
ComEd	\$33.46	\$42.72	(\$6.15)	(\$3.12)	\$28.80	\$32.72	(\$2.08)	(\$1.85)
DAY	\$39.29	\$42.72	(\$2.60)	(\$0.83)	\$32.10	\$32.72	(\$0.47)	(\$0.15)
DEOK	NA	NA	NA	NA	\$30.73	\$32.72	(\$0.33)	(\$1.66)
DLCO	\$38.89	\$42.72	(\$2.52)	(\$1.31)	\$31.53	\$32.72	(\$0.19)	(\$1.00)
Dominion	<del>\$47.93</del> <del>\$46.00</del>	\$42.72	\$2.61	<del>\$2.59</del> <del>\$0.66</del>	<del>\$35.86</del> <del>\$34.39</del>	\$32.72	<del>\$1.30</del> <del>\$1.18</del>	<del>\$1.83</del> <del>\$0.48</del>
DPL	<del>\$46.00</del> <del>\$47.93</del>	\$42.72	\$2.61	<del>\$0.66</del> <del>\$2.59</del>	<del>\$34.39</del> <del>\$35.86</del>	\$32.72	<del>\$1.18</del> <del>\$1.30</del>	<del>\$0.48</del> <del>\$1.83</del>
JCPL	\$47.59	\$42.72	\$2.48	\$2.38	\$34.24	\$32.72	\$0.23	\$1.29
Met-Ed	\$45.82	\$42.72	\$2.37	\$0.72	\$33.68	\$32.72	\$0.37	\$0.59
PECO	\$47.21	\$42.72	\$2.71	\$1.78	\$34.02	\$32.72	\$0.37	\$0.92
PENELEC	\$42.79	\$42.72	(\$0.17)	\$0.24	\$33.41	\$32.72	\$0.10	\$0.59
Pepco	<del>\$45.68</del> <del>\$47.58</del>	\$42.72	<del>\$2.37</del> <del>\$3.35</del>	<del>\$0.59</del> <del>\$1.51</del>	<del>\$33.19</del> <del>\$36.05</del>	\$32.72	<del>\$0.03</del> <del>\$2.12</del>	<del>\$0.43</del> <del>\$1.21</del>
PPL	<del>\$48.32</del> <del>\$45.68</del>	\$42.72	<del>\$3.06</del> <del>\$2.37</del>	<del>\$2.53</del> <del>\$0.59</del>	<del>\$34.76</del> <del>\$33.19</del>	\$32.72	<del>\$0.54</del> <del>\$0.03</del>	<del>\$1.49</del> <del>\$0.43</del>
PSEG	<del>\$47.58</del> <del>\$48.32</del>	\$42.72	<del>\$3.35</del> <del>\$3.06</del>	<del>\$1.51</del> <del>\$2.53</del>	<del>\$36.05</del> <del>\$34.76</del>	\$32.72	<del>\$2.12</del> <del>\$0.54</del>	<del>\$1.21</del> <del>\$1.49</del>
RECO	\$45.80	\$42.72	\$1.13	\$1.95	\$34.08	\$32.72	\$0.14	\$1.22
PJM	\$42.52	\$42.72	(\$0.07)	(\$0.13)	\$32.79	\$32.72	\$0.09	(\$0.01)