New Service Queue Update

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Overview

- All study reports located at: http://www.pjm.com/planning.aspx

- Covers period between September 1, 2019 and August 31, 2020

- 668 System Impact Study Reports issued
- $573.00 net decrease in total Network Upgrade costs
  - $101.21 million in new Network Upgrades
  - $656.55 million decrease for cancelled Network Upgrades
  - $17.66 million decrease from scope/cost changes

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New System Impact Study Reports

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Merchant Transmission Projects

Queue	Project Name	TO	Rights Requested
AB2-019	Erie West 345kV	Penelec	28 MW Non-Firm Transmission Withdrawal

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Long Term Firm Projects

- None

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Auction Revenue Rights Requests

Queue	Project Name	TO	Rights Requested
AD2-080	Dumont-Stillwell 345kV	AEP	309 MW
AE1-077	Sandy Springs-High Ridge 230 kV	BGE	100 MW
AE2-009	Nottingham-Peach Bottom Tap 230 kV line	PECO	11 MW
AF1-025	Cedar Creek-Silver Run 230 kV	DPL	50 MW

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Generation Interconnection Projects - AEC

Queue	Fuel	MW Energy	MW Capacity
AE2-020	Offshore Wind	604.8	106.44
AE2-021	Offshore Wind	604.8	106.44
AE2-022	Offshore Wind	300	62.09
AE2-023	Offshore Wind	445.2	78.36
AE2-222	Offshore Wind	300	85.424
AE2-251	Offshore Wind	1200	337.2
AE2-091	Solar	35	23
AE2-205	Solar	78	46.8

Queue	Fuel	MW Energy	MW Capacity
AE2-334	Solar	44	28.7
AE2-335	Solar	60	41.5
AF1-041	Solar	2.4	0
AF1-208	Solar	45	27
AF1-262	Solar	0	0.9
AF1-160	Storage	20	10
AF1-238	Storage	127.5	51
AF1-239	Storage	30	12

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Generation Interconnection Projects - AEP

Queue	Fuel	MW Energy	MW Capacity
AC1-100	Natural Gas	98	43.4
AC2-055	Solar	47.5	18.05
AC2-059	Solar	127	62.5
AC2-060	Solar	100	64
AC2-061	Solar	117	58.1
AC2-087	Solar	85	47.4
AC2-090	Solar	100	38
AC2-104	Wind	500.25	65.03
AC2-140	Nuclear	28	38
AD1-015	Solar	150	57
AD1-017	Solar	20	7.6
AD1-043	Solar	120	45.6

Queue	Fuel	MW Energy	MW Capacity
AD1-070	Wind	205	36
AD1-072	Solar	20	13.7
AD1-073	Solar	20	13.2
AD1-101	Solar	49.9	18.96
AD1-102	Wind	180.01	23.4
AD1-104	Wind	403.2	52.42
AD1-106	Solar	60	22.8
AD1-119	Solar	49.9	18.96
AD1-128	Solar	150	57
AD1-137	Wind	500	65
AD1-141	Solar	50	30
AD1-161	Solar	55	30.2

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Generation Interconnection Projects - AEP

Queue	Fuel	MW Energy	MW Capacity
AD2-001	Natural Gas	18	18
AD2-014	Solar	53.325	22.4
AD2-016	Solar	127	62.5
AD2-020	Solar	100	61.9
AD2-022	Solar	96	60
AD2-023	Solar	54	35
AD2-067	Solar	150	57
AD2-071	Solar	100	67
AD2-075	Natural Gas	285	145
AD2-078	Coal	20	40
AD2-079	Solar	20	12
AD2-086	Solar	230	138

Queue	Fuel	MW Energy	MW Capacity
AD2-091	Storage	50	50
AD2-092	Solar	175	105
AD2-093	Solar	225	135
AD2-096	Storage	50	50
AD2-105	Solar	100	40.6
AD2-106	Solar	80	33.6
AD2-107	Solar	55	23.1
AD2-136	Wind	360	46.8
AD2-138	Wind	200	35.2
AD2-162	Solar	110	73.81
AD2-178	Solar	120	72
AD2-179	Solar	100	60

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Generation Interconnection Projects - AEP

Queue	Fuel	MW Energy	MW Capacity
AD2-189	Natural Gas	225	186
AD2-191	Wind	170	22.1
AE1-017	Solar	20	11
AE1-089	Solar	310	130.65
AE1-093	Storage	42	42
AE1-100	Solar	66	41.9
AE1-121	Natural Gas	529.5	483
AE1-146	Solar	120	81.8
AE1-176	Hydro	2.4	2.4
AE1-178	Natural Gas	19	19
AE1-207	Solar	160	67.2
AE1-208	Solar	130	55

Queue	Fuel	MW Energy	MW Capacity
AE1-209	Wind	100	13
AE1-210	Wind	100	13
AE1-217	Solar	200	84
AE1-227	Solar	49.5	30.69
AE2-045	Solar	200	84.28
AE2-047	Solar	50	32.4
AE2-048	Solar/Storage	220	147.7
AE2-072	Solar	150	90
AE2-073	Solar	50	21
AE2-089	Solar	155	93
AE2-090	Solar	144	86.4
AE2-130	Solar/Storage	800	480

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Generation Interconnection Projects - AEP

Queue	Fuel	MW Energy	MW Capacity
AE2-136	Solar/Storage	114	83.2
AE2-140	Solar	201.1	120.66
AE2-148	Solar/Storage	577	397.3
AE2-149	Solar/Storage	400	291.4
AE2-154	Wind	250	32.5
AE2-160	Hydro	51	30
AE2-166	Solar	90	54
AE2-169	Storage	33	33
AE2-171	Storage	30	30
AE2-172	Storage	40	40
AE2-195	Solar	19.7	9
AE2-196	Solar	94.6	56

Queue	Fuel	MW Energy	MW Capacity
AE2-204	Solar	19.3	9.3
AE2-208	Storage	25	25
AE2-214	Solar	200	120
AE2-216	Storage	55	55
AE2-219	Solar	100	42
AE2-220	Solar	125	52.5
AE2-234	Solar	35	24.1
AE2-236	Solar	55	38.5
AE2-245	Solar	0	5.3
AE2-276	Storage	50	50
AE2-280	Solar	126.65	75.99
AE2-290	Solar	100	60

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Generation Interconnection Projects - AEP

Queue	Fuel	MW Energy	MW Capacity
AE2-297	Solar	152.5	91.5
AE2-298	Solar	50	30
AE2-302	Solar	63	37.8
AE2-306	Solar	30	18
AE2-322	Solar	60	40.3
AE2-323	Solar	100	67.1
AE2-325	Storage	52.2	31.32
AE2-326	Storage	52.2	31.32
AF1-029	Solar	25	15
AF1-046	Storage	52.2	31.32
AF1-047	Storage	34.8	20.88
AF1-049	Solar	125	75

Queue	Fuel	MW Energy	MW Capacity
AF1-051	Coal	11	11
AF1-062	Storage	200	80
AF1-063	Solar	30	19.3
AF1-071	Solar	20	7.6
AF1-076	Solar	100	61.6
AF1-077	Solar	100	61.6
AF1-080	Storage	20	20
AF1-084	Solar	85	54.1
AF1-085	Solar	77	32.34
AF1-091	Solar/Storage	180	138.4
AF1-092	Solar/Storage	150	115
AF1-113	Solar/Storage	180	137.3

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Generation Interconnection Projects - AEP

Queue	Fuel	MW Energy	MW Capacity
AF1-117	Solar/Storage	200	152.9
AF1-118	Solar/Storage	350	268.9
AF1-119	Solar/Storage	200	140
AF1-130	Solar	200	133.9
AF1-141	Solar	96	62.8
AF1-144	Solar	100	66.9
AF1-148	Solar/Storage	159	95.4
AF1-158	Solar/Storage	150	90
AF1-161	Storage	50	25
AF1-162	Storage	100	60
AF1-164	Solar	300	195
AF1-176	Solar/Storage	300	155.684

Queue	Fuel	MW Energy	MW Capacity
AF1-202	Wind	200	34
AF1-204	Wind	255	63.75
AF1-207	Wind	180	34
AF1-215	Solar	300	180
AF1-221	Solar	180	138.4
AF1-223	Solar	150	90
AF1-227	Solar/Storage	425	295
AF1-228	Solar	155	93
AF1-229	Solar	120	72
AF1-268	Solar	83	57.1
AF1-275	Storage	50	50
AF1-285	Solar/Storage	100	56

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Generation Interconnection Projects - AEP

Queue	Fuel	MW Energy	MW Capacity
AF1-313	Solar	40	24
AF1-322	Solar	200	84
AF1-323	Solar	55	33
AF2-103	Solar/Storage	3.15	1.32

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Generation Interconnection Projects - APS

Queue	Fuel	MW Energy	MW Capacity
AD1-068	Wind	80	11.76
AD1-125	Wind	80	11.76
AD2-110	Natural Gas	12	12
AE1-003	Storage	59	0
AE1-052	Storage	0	10
AE1-105	Natural Gas	1270	1235
AE2-001	Solar	20	12
AE2-030	Solar	18	7.56
AE2-054	Solar	20	12
AE2-055	Solar	20	12
AE2-074	Solar	35	15.11
AE2-113	Solar	130	62.6

Queue	Fuel	MW Energy	MW Capacity
AE2-120	Solar	20	12
AE2-121	Solar	10.64	6.384
AE2-137	Natural Gas	84	87
AE2-191	Solar	52	21.84
AE2-226	Solar	99	59.4
AE2-230	Solar	70	42
AE2-248	Solar	16	9.6
AE2-289	Wind	80	11.76
AE2-309	Solar/Storage	19.84	16.66
AE2-333	Solar	100	60
AF1-001	Solar	13.75	6.5
AF1-021	Solar	14	8.4

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Generation Interconnection Projects - APS

Queue	Fuel	MW Energy	MW Capacity
AF1-022	Solar	14	8.4
AF1-061	Solar	4	1.2
AF1-065	Natural Gas	100	0
AF1-068	Solar	20	12.8
AF1-102	Natural Gas	0	8
AF1-112	Solar	20	12
AF1-131	Solar	16.15	9.69
AF1-132	Solar	20	12
AF1-136	Solar	15.72	9.43
AF1-149	Solar	20	12
AF1-153	Solar	20	12
AF1-155	Solar	20	12

Queue	Fuel	MW Energy	MW Capacity
AF1-166	Solar	16	9.6
AF1-167	Solar	13.51	8.1
AF1-209	Solar	15.9	9.54
AF1-210	Solar	15.9	9.54
AF1-214	Solar	20	12
AF1-224	Solar	11.9	7.9
AF1-225	Solar	20	8.4
AF1-254	Solar	20	12
AF1-271	Solar	60	36
AF1-290	Solar	80	40.4
AF1-291A	Solar	10	6
AF1-297	Solar	52.8	31.68

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Generation Interconnection Projects - APS

Queue	Fuel	MW Energy	MW Capacity
AF1-302	Solar	42	18
AF2-179	Solar	0	5.8
AF2-180	Solar	0	5.8
AF2-184	Solar	0	5.8
AF2-185	Solar	0	4.4
AF2-215	Solar	5	3
AF2-273	Solar/Storage	3	0

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Generation Interconnection Projects - ATSI

Queue	Fuel	MW Energy	MW Capacity
AD1-118	Natural Gas	70	70
AE1-119	Natural Gas	550	550
AE2-176	Solar	125	75
AE2-181	Solar	49	29.4
AE2-193	Solar	120	50.4
AE2-194	Solar	145	84
AE2-217	Solar	180	108
AE2-277	Solar/Storage	38.2	16
AE2-282	Solar	67	43.9
AE2-285	Solar	50	30
AE2-324	Storage	20.3	20.3
AE2-343	Solar/Storage	17.9	12.3

Queue	Fuel	MW Energy	MW Capacity
AF1-064	Solar	50	33.4
AF1-093	Solar	20	12
AF1-120	Solar	40	26.6
AF1-122	Solar	64	26.88
AF1-146	Solar	201.95	121.17
AF1-171	Solar	20	12
AF1-189	Oil	1.5	1.5
AF1-190	Natural Gas	1	1
AF1-191	Natural Gas	4	4
AF1-199	Oil	4	4
AF1-205	Solar	40	24
AF1-206	Solar	199	119.4

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Generation Interconnection Projects - ATSI

Queue	Fuel	MW Energy	MW Capacity
AF1-250	Solar	18	10.8
AF1-279	Solar/Storage	150	90
AF1-305	Solar/Storage	35	21
AF2-044	Natural Gas	0	20

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Generation Interconnection Projects - BGE

Queue	Fuel	MW Energy	MW Capacity
AD2-103	Oil	14	14
AD2-104	Natural Gas	144.6	144.6
AF1-299	Solar	15	9
AF1-300	Solar	15	9

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Generation Interconnection Projects – ComEd

Queue	Fuel	MW Energy	MW Capacity
AC1-053	Wind	200	26
AC1-109	Natural Gas	30	30
AC1-110	Natural Gas	30	30
AC1-111	Natural Gas	36	36
AC1-113	Natural Gas	20	20
AC1-114	Natural Gas	20	20
AC1-142A	Natural Gas	64	64
AC1-171	Wind	79.1	10.3
AC2-115	Natural Gas	40	40
AC2-116	Natural Gas	7	7
AC2-117	Natural Gas	46	46
AD1-098	Solar	100	57.8

Queue	Fuel	MW Energy	MW Capacity
AD1-100	Wind	850	150
AD1-133	Solar	300	180
AD2-134	Wind	117.5	22.9
AD2-172	Solar	50	21
AE1-172	Wind	255	44.88
AE2-035	Solar	50	21
AE2-107	Solar	90	54
AE2-153	Wind	200	35.2
AE2-173	Storage	50	50
AE2-223	Wind	150	19.5
AE2-255	Wind	100	25
AE2-281	Wind	50	7

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Generation Interconnection Projects – ComEd

Queue	Fuel	MW Energy	MW Capacity
AE2-321	Solar	100	67
AF1-009	Storage	25	5
AF1-011	Storage	30	11.2
AF1-012	Solar	175	105
AF1-030	Solar	100	66.9
AF1-048	Storage	52.2	31.32
AF1-060	Storage	10.34	10.34
AF1-072	Natural Gas	17.2	17.2
AF1-090	Wind	200	35.2

Queue	Fuel	MW Energy	MW Capacity
AF1-156	Solar	150	90
AF1-252	Storage	62.4	62.4
AF1-253	Storage	43.2	43.2
AF1-280	Solar	200	137
AF1-281	Storage	20	3
AF1-317	Storage	0	20
AF1-330	Solar	20	16.4
AF1-331	Solar	20	20

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Generation Interconnection Projects – Dayton

Queue	Fuel	MW Energy	MW Capacity
AD2-031	Solar	50	19
AD2-147	Solar	100	42
AE2-206	Solar	99	41.58
AE2-218	Solar	178	106
AE2-221	Solar	300	180
AE2-278	Solar	150.7	90.4
AE2-303	Solar	75	45
AE2-305	Solar	78	46.8
AE2-315	Natural Gas	23.5	23.5
AE2-319	Solar	100	66.9

Queue	Fuel	MW Energy	MW Capacity
AE2-320	Solar	100	66.9
AE2-342	Solar	40	26.8
AF1-053	Storage	40	16
AF1-054	Solar	38.5	23.1
AF1-078	Solar	45	18.9
AF1-159	Solar	0	11
AF1-270	Storage	50	50
AF1-282	Solar	100	60
AF1-283	Solar	130	78
AF1-319	Solar	58	38.4

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Generation Interconnection Projects – DEOK

Queue	Fuel	MW Energy	MW Capacity
AE2-267	Solar	50	30.9
AE2-318	Solar	100	67.2
AF1-045	Storage	52.2	31.3
AF1-249	Solar	19.92	14
AF1-315	Solar	60	36

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Generation Interconnection Projects – DL

Queue	Fuel	MW Energy	MW Capacity
AF1-150	Natural Gas	14.4	4.28
AF2-367	Hydro	12	12
AF2-368	Hydro	9.5	9.5

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Generation Interconnection Projects – Dominion

Queue	Fuel	MW Energy	MW Capacity
AD1-022	Solar	80	51.8
AD1-023	Solar	40	25.9
AD1-047	Solar	80	48
AD1-056	Solar	60	38.9
AD1-057	Solar	34	22.4
AD1-074	Solar	300	198.8
AD1-075	Solar	75	49.7
AD1-076	Solar	109	72.2
AD2-046	Solar	80	54.8
AD2-051	Solar	74.9	52.4
AD2-090	Solar	70	42
AD2-169	Solar	100	60

Queue	Fuel	MW Energy	MW Capacity
AD2-202	Solar	18.8	12.8
AE1-024	Solar/Storage	80	63.8
AE1-025	Solar/Storage	80	63.8
AE1-026	Solar/Storage	80	63.8
AE1-148	Solar	90	54
AE1-168	Solar	150	90
AE1-230	Solar/Storage	20	7.2
AE1-248	Solar/Storage	100	60
AE2-005	Solar	20	7.6
AE2-007	Natural Gas	967.6	967.6
AE2-019	Storage	120	120
AE2-027	Solar	120	72

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Generation Interconnection Projects – Dominion

Queue	Fuel	MW Energy	MW Capacity
AE2-029	Solar	50	30
AE2-031	Solar	290	174
AE2-033	Solar	149	89
AE2-034	Solar	60	42
AE2-037	Solar	71.5	48.2
AE2-040	Storage	17.64	15.7
AE2-041	Storage	40	40
AE2-044	Solar	40	28
AE2-051	Solar	150	90
AE2-052	Storage	20	20
AE2-053	Storage	20	20
AE2-078	Solar	20	13.2

Queue	Fuel	MW Energy	MW Capacity
AE2-079	Solar	20	13.2
AE2-080	Solar	20	13.2
AE2-092	Solar	138	82.8
AE2-094	Solar/Storage	300	207.2
AE2-104	Solar	49	18.92
AE2-108	Solar	20	8.4
AE2-109	Solar	7	2.94
AE2-122	Offshore Wind	800.1	158.9
AE2-123	Offshore Wind	800.1	163.3
AE2-124	Offshore Wind	800.1	148.5
AE2-147	Solar	150	90
AE2-150	Solar/Storage	0	0

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Generation Interconnection Projects – Dominion

Queue	Fuel	MW Energy	MW Capacity
AE2-151	Solar/Storage	10	6.5
AE2-156	Storage	100	100
AE2-157	Solar	100	60
AE2-182	Solar	17	11.6
AE2-183	Natural Gas	75	0
AE2-184	Natural Gas	15	0
AE2-185	Solar/Storage	60	36
AE2-187	Solar/Storage	60	36
AE2-188	Storage	40	40
AE2-190	Solar	70	27.02
AE2-212	Solar	20	12
AE2-227	Solar	20	12

Queue	Fuel	MW Energy	MW Capacity
AE2-228	Solar	20	12
AE2-231	Solar	44	26.4
AE2-247	Solar	20	8.4
AE2-250	Solar	82.5	54
AE2-253	Solar	50	34.5
AE2-258	Solar	0	14.1
AE2-259	Solar	100	60
AE2-260	Solar/Storage	200	82.7
AE2-270	Solar/Storage	150	150
AE2-283	Solar	60.4	39.6
AE2-291	Solar	102	61.2
AE2-292	Solar	127	76.2

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Generation Interconnection Projects – Dominion

Queue	Fuel	MW Energy	MW Capacity
AE2-313	Solar	314	188.4
AE2-346	Solar	12	8.4
AF1-014	Solar	19.9	7.2
AF1-016	Solar	20	7.72
AF1-017	Solar	20	7.6
AF1-018	Storage	40	40
AF1-028	Storage	200	200
AF1-031	Storage	93.5	60.69
AF1-032	Solar	15	9.8
AF1-033	Solar	20	13.2
AF1-042	Solar	45	17.1
AF1-058	Solar	20	12

Queue	Fuel	MW Energy	MW Capacity
AF1-059	Solar/Storage	99.2	99.2
AF1-066	Storage	130	130
AF1-067	Solar/Storage	50	30
AF1-069	Solar/Storage	94	67.7
AF1-075	Solar	73	45.5
AF1-079	Solar	44.8	19
AF1-082	Storage	18	18
AF1-114	Solar	100	42
AF1-115	Solar	60	40.2
AF1-123	Offshore Wind	880	267.5
AF1-124	Offshore Wind	880	267.5
AF1-125	Offshore Wind	880	267.5

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Generation Interconnection Projects – Dominion

Queue	Fuel	MW Energy	MW Capacity
AF1-128	Natural Gas	569	569
AF1-129	Natural Gas	569	569
AF1-147	Solar	100	60
AF1-152	Solar	50	30
AF1-173	Solar	0	13.95
AF1-201	Solar/Storage	150	90
AF1-246	Solar	100	42
AF1-248	Solar	0	2.1
AF1-265	Storage	150	150
AF1-266	Storage	74.5	74.5
AF1-291	Solar	20	12
AF1-292	Solar	14.9	8.94

Queue	Fuel	MW Energy	MW Capacity
AF1-293	Solar/Storage	127.86	108.37
AF1-294	Solar	41	24.6
AF1-301	Solar	127	76
AF2-043	Solar	20	12
AF2-085	Storage	20	20
AF2-255	Solar	5	3
AF2-256	Solar	5	3
AF2-257	Solar	5	3
AF2-258	Solar	5	3
AF2-400	Solar	7.125	2.7075
AF2-401	Solar	9.272	3.523

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Generation Interconnection Projects – DPL

Queue	Fuel	MW Energy	MW Capacity
AC1-091	Solar	19.8	7.5
AC1-092	Solar	19.8	7.5
AC1-093	Solar	18.8	7.1
AC1-094	Solar	15.9	6
AC2-184	Solar	20	7.6
AC2-185	Solar	20	7.6
AE2-093	Solar	44	16.72
AE2-112	Solar	17	6.46
AE2-209	Solar	56	33
AE2-257	Offshore Wind	120	33
AE2-301	Storage	5.5	2.2

Queue	Fuel	MW Energy	MW Capacity
AF1-007	Offshore Wind	7.3	1.9
AF1-015	Solar	15	6.3
AF1-036	Solar	20	8.4
AF1-157	Solar	25	15
AF1-231	Storage	19	7.6
AF1-244	Storage	8	8
AF1-258	Solar	0	3.2
AF1-259	Solar	0	0.8
AF2-250	Solar	1.95	1.1
AF2-379	Solar	3.9	1.638

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Generation Interconnection Projects – EKPC

Queue	Fuel	MW Energy	MW Capacity
AE2-038	Solar/Storage	80	53.5
AE2-071	Solar	35	21
AE2-138	Solar/Storage	260	189.8
AE2-210	Solar/Storage	90	65.4
AE2-254	Solar	50	30
AE2-275	Solar/Storage	90	65.4
AE2-308	Solar/Storage	150	110
AE2-339	Solar	40	26.8
AF1-038	Solar/Storage	60	36
AF1-050	Solar/Storage	60	36

Queue	Fuel	MW Energy	MW Capacity
AF1-083	Solar/Storage	55	33
AF1-116	Solar	120	72
AF1-127	Solar	80	53.6
AF1-203	Solar/Storage	20	12
AF1-219	Solar/Storage	30	20.4
AF1-233	Solar/Storage	225	150.6
AF1-251	Solar/Storage	220	132
AF1-256	Solar	80	48
AF1-267	Solar	54	37

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Generation Interconnection Projects – JCPL

Queue	Fuel	MW Energy	MW Capacity
AE1-020	Offshore Wind	816	229.3
AE2-024	Offshore Wind	882	155.23
AE2-025	Offshore Wind	445.2	78.36
AE2-028	Solar	0.75	0.4
AE2-082	Solar	7	3.4
AE2-232	Wind	400	112.4
AE2-237	Storage	107	21.4
AE2-317	Solar	80	48
AF1-019	Storage	19.999	0
AF1-023	Solar	0	8.4
AF1-026	Storage	0	2
AF1-027	Storage	0	2

Queue	Fuel	MW Energy	MW Capacity
AF1-101	Offshore Wind	800	224.8
AF1-105	Storage	20	20
AF1-108	Solar/Storage	20	20
AF1-126	Storage	250	50
AF1-185	Natural Gas	0	5.5
AF1-195	Natural Gas	0	1
AF1-196	Natural Gas	0	14.5
AF1-222	Offshore Wind	510	140.25
AF1-257	Solar	0	0.2
AF1-260	Solar	0	1
AF1-263	Solar	0	0.7
AF1-320	Solar/Storage	70	42

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Generation Interconnection Projects – JCPL

Queue	Fuel	MW Energy	MW Capacity
AF1-324	Storage	20	0
AF1-325	Storage	20	0
AF1-326	Storage	20	0
AF1-327	Storage	20	0
AF1-328	Storage	20	0

Queue	Fuel	MW Energy	MW Capacity
AF2-118	Storage	19.99	3.99
AF2-192	Solar	7	3.4
AF2-254	Solar	10	4.2
AF2-354	Solar	11	4.62

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Generation Interconnection Projects – MetEd

Queue	Fuel	MW Energy	MW Capacity
AE2-192	Solar	65	39
AE2-211	Solar	55	23.1
AE2-252	Solar	20	12
AE2-256	Solar	70	29.4
AE2-345	Solar	97.5	58.5
AF1-057	Solar	20	8.4
AF1-133	Solar	20	12
AF1-165	Solar	15	9
AF1-178	Oil	1.5	1.5
AF1-179	Oil	1	1
AF1-180	Oil	2	2
AF1-184	Oil	1	1

Queue	Fuel	MW Energy	MW Capacity
AF1-186	Natural Gas	6.5	6.5
AF1-187	Natural Gas	2	2
AF1-188	Oil	1	1
AF1-192	Natural Gas	1	1
AF1-193	Natural Gas	4	4
AF1-194	Oil	1	1
AF1-211	Solar	15	9
AF1-212	Solar	15	9
AF1-309	Solar	32	19.2
AF1-334	Solar	20	12
AF1-335	Solar	101.2	60.72
AF1-336	Solar	20	12

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Generation Interconnection Projects – MetEd

Queue	Fuel	MW Energy	MW Capacity
AF2-099	Solar	3	1.8
AF2-100	Solar	3	1.8
AF2-101	Solar	3	1.8
AF2-151	Solar	3	1.8
AF2-268	Solar/Storage	2	0
AF2-272	Solar/Storage	3	0

Queue	Fuel	MW Energy	MW Capacity
AF2-281	Solar/Storage	3	0
AF2-428	Solar/Storage	3	0
AF2-429	Solar/Storage	3.72	0
AF2-430	Solar/Storage	3	0
AF2-431	Solar/Storage	1.17	0

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Generation Interconnection Projects – ODEC

Queue	Fuel	MW Energy	MW Capacity
AE1-192	Solar	70	47
AF1-243	Storage	5	5

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Generation Interconnection Projects – PECO

Queue	Fuel	MW Energy	MW Capacity
AF1-137	Solar	9.8	5.9
AF1-174	Solar	20	12
AF2-131	Solar	5	3
AF2-230	Solar	4	2.4

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Generation Interconnection Projects – Penelec

Queue	Fuel	MW Energy	MW Capacity
AD2-055	Natural Gas	44	35
AD2-062	Solar	80.3	53.4
AE1-169	Solar	85	51
AE2-117	Solar	20	12
AE2-118	Solar	20	12
AE2-126	Solar	20	12
AE2-129	Solar	20	12
AE2-131	Solar	20	12
AE2-139	Solar	100.5	60.3
AE2-215	Solar	60	36
AE2-224	Solar	100	60
AE2-249	Solar	13.5	8.1

Queue	Fuel	MW Energy	MW Capacity
AE2-262	Solar	83.6	50
AE2-263	Solar	78.38	47
AE2-264	Solar	80	48
AE2-299	Storage	160	32
AE2-316	Solar	100	41.22
AE2-344	Solar	116.5	69.9
AF1-006	Solar	20	12.8
AF1-039	Solar	15	9
AF1-086	Wind	109.9	20.54
AF1-094	Solar	20	12
AF1-096	Solar	20	12
AF1-098	Solar	80	48

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Generation Interconnection Projects – Penelec

Queue	Fuel	MW Energy	MW Capacity
AF1-103	Solar/Storage	20	20
AF1-104	Solar/Storage	20	20
AF1-106	Solar/Storage	20	20
AF1-134	Solar	20	12
AF1-140	Solar	16.3	9.78
AF1-143	Solar	100	60
AF1-170	Solar	77.5	46.5
AF1-177	Natural Gas	5	5
AF1-181	Natural Gas	3	3
AF1-182	Natural Gas	4	4
AF1-183	Natural Gas	1	1
AF1-198	Natural Gas	2.5	2.5

Queue	Fuel	MW Energy	MW Capacity
AF1-217	Solar	20	12
AF1-232	Solar/Storage	160	104
AF1-240	Solar	20	12
AF1-272	Solar	110	66
AF1-273	Solar	85	51
AF1-286	Solar	13.6	8.1
AF1-287	Solar	20	12
AF1-304	Solar/Storage	100	60
AF1-307	Solar/Storage	66.5	39.9
AF1-321	Solar	20	12
AF2-045	Storage	20	2
AF2-087	Solar	7.25	3.05

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Generation Interconnection Projects – Penelec

Queue	Fuel	MW Energy	MW Capacity
AF2-097	Solar	5	3
AF2-163	Solar	0	0
AF2-178	Solar	0	3.9
AF2-231	Solar	5	3
AF2-265	Solar	15	8.6

Queue	Fuel	MW Energy	MW Capacity
AF2-270	Solar/Storage	3.72	0
AF2-271	Solar/Storage	3	0
AF2-436	Natural Gas	1.5	1.5
AF2-437	Natural Gas	1.5	1.5

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Generation Interconnection Projects – PPL

Queue	Fuel	MW Energy	MW Capacity
AD2-077	Storage	200	100
AE2-042	Solar	70	46.8
AE2-046	Solar/Storage	50	24
AE2-059	Solar	20	8.4
AE2-060	Solar	20	8.4
AE2-084	Solar	20	8.4
AE2-110	Solar	20	8.4
AE2-111	Solar	20	8.4
AE2-133	Solar	20	8.4
AE2-175	Solar	80	48
AE2-241	Solar	20	8.4
AE2-271	Solar	101.6	61

Queue	Fuel	MW Energy	MW Capacity
AE2-288	Natural Gas	90	206
AE2-295	Wind	174.8	25.7
AF1-040	Storage	20	1
AF1-216	Solar	143.11	85.87
AF1-226	Solar	35	14.7
AF1-271A	Solar	17	10.2
AF1-311	Solar	150	57
AF1-333	Solar	20	12
AF1-337	Solar	20	12
AF1-338	Solar	20	12
AF1-339	Solar	20	12
AF2-093	Solar	3	1.8

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Generation Interconnection Projects – PPL

Queue	Fuel	MW Energy	MW Capacity
AF2-161	Solar	3	1.8
AF2-277	Solar/Storage	2	0
AF2-278	Solar/Storage	3	0
AF2-279	Solar/Storage	3	0
AF2-280	Solar/Storage	3	0
AF2-282	Solar/Storage	3	0
AF2-283	Solar/Storage	2	0
AF2-284	Solar/Storage	2	0

Queue	Fuel	MW Energy	MW Capacity
AF2-285	Solar/Storage	3	0
AF2-286	Solar/Storage	3	0
AF2-287	Solar/Storage	3	0
AF2-288	Solar/Storage	3	0
AF2-289	Solar/Storage	3	0
AF2-290	Solar/Storage	2	0
AF2-427	Solar/Storage	3	0
AF2-432	Solar/Storage	2	0

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Generation Interconnection Projects – PSEG

Queue	Fuel	MW Energy	MW Capacity
AD2-025	Storage	2	0
AF1-052	Natural Gas/Solar/Storage	131.5	114.2
AF1-109	Solar/Storage	20	20
AF1-237	Storage	200	80
AF1-245	Storage	200	80

Queue	Fuel	MW Energy	MW Capacity
AF1-261	Solar	0	0.9
AF1-264	Solar	0	1.3
AF2-168	Natural Gas/Solar	5	0
AF2-247	Solar	5	2.1

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Generation Interconnection Projects – SMECO

Queue	Fuel	MW Energy	MW Capacity
AE2-017	Solar	20	10.3
AF1-003	Solar	20	9.5
AF1-004	Solar	16.8	6.5
AF1-005	Solar	20	9.9

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Network Upgrades

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New Network Upgrades - AEP

NUN	Description	Cost ($M)	Driver
n5817	Install Dequine 345 kV circuit breaker D	$ 1.167	MISO Project
n5818	Update relay settings at Dequine substation	$ 0.040	MISO Project
n6251	AEP will install (6) new transmission structures for four (4) raises on two (2) existing 138 kV lines near the Jay 138 kV Substation, to accommodate Customer Facility line crossings of those existing lines	$ 2.146	AC2-176

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New Network Upgrades - APS

NUN	Description	Cost ($M)	Driver
n6064	Adjust remote relay and metering settings at the Glen Falls 138 kV Substation associated with the upgrade for AD2-192.	$ 0.006	AD2-192
n6107	Keystone Substation: Revise relay settings on South Bend Terminal.	$ 0.031	AD2-114
n6108	Yukon Substation: Revise relay settings on South Bend Terminal.	$ 0.031	AD2-114

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New Network Upgrades - ATSI

NUN	Description	Cost ($M)	Driver
n6097	Lallendorf 345 kV – Install line exit conductor, 345 kV steel take-off structure and disconnect switch. And FE engineering oversight of specification and design of new customer owned revenue metering	$ 0.700	AB1-107
n6098	AB1-107 138kV Interconnection substation – FE engineering oversight of specification and design of new customer owned revenue metering	$ -	AB1-107
n6099	Engineering Oversight & Commissioning for the “Option to Build” 138kV ring bus substation. Project Management, Construction Management, Commissioning, Environmental, Forestry, Real Estate and SCADA.	$ 0.830	AB1-107
n6100	Lallendorf 345 kV – Install new 345 kV terminal and associated SCADA work to support new equipment installations	$ 1.570	AB1-107
n6101	Bayshore-GM Powertrain 138 kV – Loop the Bayshore-GM Powertrain 138 kV circuit into the proposed three-breaker ring bus between. Loop will originate near structure 10B.	$ 2.040	AB1-107
n6102	Bayshore 138kV Substation – Upgrade line relaying for GM Powertrain 138 kV line exit and rename for new AB1-107 PJM station	$ 0.260	AB1-107
n6103	GM Powertrain 138kV Substation – Upgrade line relaying for Bayshore 138 kV line exit and rename for new AB1-107 PJM station	$ 0.250	AB1-107
n6104	Install ADSS fiber for protection from Bayshore to GM Powertrain substations	$ 1.100	AB1-107

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New Network Upgrades - ComEd

NUN	Description	Cost ($M)	Driver
n6025	Design, procurement, and construction to expand 345kV TSS 900 Elwood switchyard and install one 345kV, 3000A circuit breaker with associated equipment. Also included is Supervisory Control and Data Acquisition (SCADA) system work and customer support for Jackson Generation	$ 35.764	AC1-204
n6058	Design, procurement, and construction to replace existing 2000A Goodings Grove BT3-4 oil circuit breaker and associated equipment with one (1) 345kV, 3000A, 63kA SF6 gas circuit breaker.	$ 3.000	AC1-204
n6065	Oversight and review of relaying at TSS 929 Jackson	$ 0.178	AC1-204
n6446	Modifications to protection and control, Supervisory Control and Data Acquisition (“SCADA”), and communication equipment	$ 0.200	AC1-214

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New Network Upgrades - Dominion

NUN	Description	Cost ($M)	Driver
n5202	Build a three (3) breaker Wards Creek 230 kV switching station. The site is located adjacent to the Interconnected Transmission Owner's existing right of way for the Hopewell – Surry 230kV line # 240.	$ 5.987	AB2-190
n5203	Re-arrange Hopewell – Surry 230kV line # 240 to loop into and out of the new three (3) breaker Wards Creek switching station between structures 240/167 and 240/168.	$ 0.955	AB2-190
n5204	Remote protection and communication work. Interconnected Transmission Owner protection requirements to reliably interconnect the proposed generating facility with the transmission system determined that work is required at Hopewell and Surry Substations.	$ 0.063	AB2-190
n5807	Replace the Prince George 230/115kV transformer #1 with a 224 MVA transformer.	$ 3.440	AB2-190
n5809	Build a three (3) breaker AB2-160 115 kV switching station. - The site is located adjacent to the Interconnected Transmission Owner's existing right of way for the Reams – Sapony 115 kV line # 69.	$ 5.283	AB2-160
n5810	Re-arrange Reams – Sapony 115 kV line # 69 to loop into and out of the new three (3) breaker AB2-160 switching station between structures 69/89 and 69/90.	$ 5.297	AB2-160
n5811	Remote protection and communication work. Interconnected Transmission Owner protection requirements to reliably interconnect the proposed generating facility with the transmission system determined that work is required at Clubhouse, Locks, Reams DP and Sapony Substations	$ 0.300	AB2-160

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New Network Upgrades - Dominion

NUN	Description	Cost ($M)	Driver
n5812	Build a three (3) breaker AB2-161 115 kV switching station. The site is located adjacent to the Interconnected Transmission Owner's existing right of way for the Bakers Pond DP – Bell Ave 115 kV line #106.	$ 4.892	AB2-161
n5813	Re-arrange Poe – Bell Ave 115 kV line # 106 to loop into and out of the new three (3) breaker AB2-161 switching station between structures 106/131 and 106/132.	$ 0.776	AB2-161
n5814	Remote protection and communication work. Interconnected Transmission Owner protection requirements to reliably interconnect the proposed generating facility with the transmission system determined that work is required at Bell Ave, Poe, Stewart Lane and Suffolk Substations.	$ 0.214	AB2-161
n5995	Build a three (3) breaker AC1-054 115 kV switching station. The site is located adjacent to the Interconnected Transmission Owner's existing right of way for the Carolina – Kerr Dam 115 kV line # 22.	$ 5.281	AC1-054
n5996	Re-arrange Carolina – Kerr Dam 115 kV line #22 to loop into and out of the new three (3) breaker AC1-054 switching station between structures 22/2870 and 22/2871.	$ 1.011	AC1-054
n5997	Remote protection and communication work. Interconnected Transmission Owner protection requirements to reliably interconnect the proposed generating facility with the transmission system determined that work is required at Carolina and Kerr Dam Substations.	$ 0.088	AC1-054

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New Network Upgrades - Dominion

NUN	Description	Cost ($M)	Driver
n6046	Build a three breaker AC1-145 69 kV switching station. The site is located adjacent to the Interconnected Transmission Owner's existing right of way for the Gretna DP – Chatham 69kV line #173.	$ 5.063	AC1-145
n6047	Re-arrange Line #173 to loop into and out of the new three breaker AC1-145 69 kV switching station between existing Chatham - Gretna DP 69kV line #173 substation	$ 1.693	AC1-145
n6048	Remote protection and communication work. Interconnected Transmission Owner's protection requirements to reliably interconnect the proposed generating facility with the transmission system determined that work is required at Bearskin, Chatham and Gretna 69kV substations.	$ 0.123	AC1-145
n6063	Line #552 Ladysmith – Possum Point 500kV: Replace wave trap at both Ladysmith and Possum Point Substations for the Ladysmith – Possum Pt 500kV line #552.	$ 0.300	AC1-158
n6067	Build a three breaker AC1-065 115 kV switching station. The site is located adjacent to the Interconnected Transmission Owner's 115 kV Line 85 from Lanexa Substation to Harmony Village Substation.	$ 4.860	AC1-065
n6068	Re-arrange Line #85 to loop into and out of the new three breaker AC1-065 115 kV switching station between Lanexa and Harmony Village substations.	$ 1.576	AC1-065
n6069	Remote protection and communication work. Interconnected Transmission Owner's protection requirements to reliably interconnect the proposed generating facility with the transmission system determined that work is required at Shackleford, Harmony Village and Lanexa 115 kV substations.	$ 0.151	AC1-065

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New Network Upgrades - Dominion

NUN	Description	Cost ($M)	Driver
n6075	Expand Chickahominy 500 kV substation: Add a 500 kV circuit breaker in the ring bus at Chickahominy substation.	$ 2.507	AC1-107
n6122	Expand Chickahominy 500 kV substation: Add a 500 kV circuit breaker in the ring bus at Chickahominy substation.	$ 0.430	AC1-107

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New Network Upgrades - JCPL

NUN	Description	Cost ($M)	Driver
n5752	Raritan River Substation: Relay setting changes on the 230 kV line terminals to Parlin, Red Oak and Werner.	$ 0.042	AD1-113
n5753	Parlin Substation: Relay setting changes on the 230 kV line terminal to Raritan River.	$ 0.042	AD1-113
n5754	Red Oak Substation: Relay setting changes on the 230 kV line terminal to Raritan River.	$ 0.042	AD1-113
n5755	Werner Substation: Relay setting changes on the 230 kV line terminal to Raritan River	$ 0.042	AD1-113
n5838	West Flemington 34.5 kV Substation: Adjust remote relay and metering settings.	$ 0.014	AE1-156
n5839	Baptistown 34.5 kV Substation: Adjust remote relay and metering settings.	$ 0.014	AE1-156
n5840	Tap the Gilbert-Morris Park 34.5 kV line and install a span of overhead to interconnect the AD2-070 project including one 34.5 kV SCADA controlled switch.	$ 0.210	AD2-070
n5841	Gilbert Substation- Revise relay settings on Morris Park line terminal.	$ 0.014	AD2-070
n5842	Morris Park Substation- Revise relay settings on Gilbert line terminal.	$ 0.014	AD2-070
n5843	Install two 34.5 kV SCADA controlled switches on the Gilbert-Morris Park 34.5 kV line on either side of the tap to the AD2-070 project.	$ 0.387	AD2-070
n6293	AE1-142 revenue metering, engineering review of customer drawings, equipment nameplates and modification of FirstEnergy circuit diagrams.	$ 0.500	AE1-142
n6294	Manitou Substation - Adjust remote relay and metering settings	$ 0.050	AE1-142

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New Network Upgrades - Penelec

NUN	Description	Cost ($M)	Driver
n5825	Remove the reactor at Erie East Substation on S. Ripley 230 kV line. Increase size of the 230-kV capacitor to the original nameplate of 79.4 MVAR.	$ 0.100	Y3-092

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Revision History

- V1 - 9/28/2020 – Original slides posted

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