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January 29, 2021

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

*Re: PJM Interconnection, L.L.C., Docket No. ER13-198-000
2021 Informational Filing*

Dear Secretary Bose:

In accordance with the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (“PJM Operating Agreement”), Schedule 6, section 1.5.8(m)(1), PJM Interconnection, L.L.C. (“PJM”) submits to the Federal Energy Regulatory Commission (“Commission”)¹ the attached 2020 List of Immediate-need Reliability Projects, included herein as Appendix A, for which an existing Transmission Owner was selected as the Designated Entity.² In addition, PJM includes a status update in Appendix B listing Immediate-need Reliability Projects included in prior reports that were either energized in 2020 or have not yet been energized.³ PJM is submitting this filing for informational purposes.

¹ All capitalized terms that are not otherwise defined herein shall have the same meaning as they are defined in the Open Access Transmission Tariff (“Tariff”), PJM Operating Agreement, or the Reliability Assurance Agreement among Load Serving Entities in the PJM Region.

² See *PJM Interconnection, L.L.C.*, 142 FERC ¶ 61,214, at P 248 (Mar. 22, 2013) (“March 22 Order”) for the category of projects identified as Immediate-need Reliability Projects:

PJM must maintain and post a list of prior year designations of all projects in the limited category of transmission projects for which the incumbent transmission owner was designated as the entity responsible for construction and ownership of the project. The list must include the project’s need-by date and the date the incumbent transmission owner actually energized the project. Such list must be filed with the Commission as an informational filing in January of each calendar year covering the designations of the prior calendar year.

³ Once an Immediate-need Reliability Project is identified as energized in a report, it is no longer listed in subsequent years’ lists.

I. DESCRIPTION OF INFORMATIONAL FILING

Schedule 6, section 1.5.8(m)(1) requires that in January of each year PJM post on its website and file with the Commission a list of the Immediate-need Reliability Projects designated to an incumbent transmission owner in the prior calendar year. PJM's list of the Immediate-need Reliability Projects designated to an incumbent transmission owner in 2020 includes four baseline upgrades, which constitute a total of two regional transmission expansion plan ("RTEP") projects⁴ approved by the PJM Board of Managers ("PJM Board") that were exempted as an Immediate-need Reliability Project from PJM's competitive proposal window set forth in the PJM Operating Agreement, Schedule 6, section 1.5.8.

In Appendix A of PJM's January 31, 2020 Informational Filing in this docket,⁵ PJM added a column entitled "Project Count." Each project is given a baseline project number in that column. In Appendix A of this Informational Report, PJM has added an additional column entitled "Project" which represents all related sub-elements of the baseline project. Additionally, in furtherance of the Commission's June 18, 2020 order,⁶ PJM has added a column entitled "Immediate Need Reason" to provide a link to materials PJM posted on its website for each identified immediate-need reliability violation to provide greater detail regarding the specifics of

⁴ As noted by PJM in its December 27, 2019 response ("December 27 Response") to the Commission's Show Cause Order issued in Docket No. EL19-91-000, PJM lists all baseline upgrades in this Informational Filing using a baseline upgrade ID. A baseline upgrade ID may represent a baseline RTEP project or it may be one of several individual transmission facilities with individual baseline upgrade IDs that constitute an RTEP project approved by the PJM Board of Managers ("PJM Board"). In the December 27 Response, PJM stated that, although not a Tariff definition, "a project is the required system reinforcement or group of reinforcements that together mitigate a single reliability criteria violation or cluster of related reliability criteria violations identified by PJM through its analysis." See *PJM Interconnection, L.L.C.*, Response to Oct. 27, 2019 Order Instituting Section 206 Proceedings, at 2 n.7, Docket No. EL19-91-000 (Dec. 27, 2019).

⁵ See *PJM Interconnection, L.L.C.*, 2020 Informational Filing of List of Immediate-need Reliability Projects, Docket No. ER13-198-000 (Jan. 31, 2020) ("January 2020 Informational Filing").

⁶ *PJM Interconnection, L.L.C.*, 171 FERC ¶ 61,212 (June 18, 2020) ("June 18 Order").

the reliability violations and system conditions, including why the reliability violations were not identified earlier and information into PJM's reasoning for selecting an incumbent transmission owner for an Immediate-need Reliability Project.⁷ Such information was fully vetted through PJM's stakeholder forums.⁸

Thus, consistent with the PJM Operating Agreement, Schedule 6, section 1.5.8(m)(1), the attached Appendix A contains the following information:

1. Count of the RTEP Projects;
2. The baseline project identification number, which represents all related upgrade sub-elements;
3. The upgrade identification number;
4. Information regarding each baseline upgrade;
5. A description of the upgrade;
6. The incumbent transmission owner designated responsibility for the construction of the upgrade;
7. The PJM Transmission Owner Zone in which the facility will be located;
8. The anticipated in-service date for the Immediate-need Reliability Project;
9. The date the incumbent Transmission Owner actually energized the Immediate-need Reliability Project;
10. The need-by date of the Immediate-need Reliability Project;
11. The status of the baseline upgrade (*e.g.*, "planning" or "in-service");
12. The date the PJM Board approved the Immediate-need Reliability Project; and

⁷ *PJM Interconnection, L.L.C.*, Compliance Filing to EL19-91-000, Docket No. ER20-2686-000 (Aug. 17, 2020).

⁸ *PJM Interconnection, L.L.C.*, Motion on Behalf of PJM Interconnection, L.L.C. for Leave to File Answer to Oct. 14, 2020 Supplemental Protest, Docket No. ER20-2686-000 (Oct. 27, 2020) (clarifying for the Commission how PJM is complying with the June 18 Order to increase transparency into the designation of Immediate-need Reliability Projects).

13. Links to documents posted by PJM on its website detailing the reasons for the Immediate-need Reliability Projects.

Also included is Appendix B, which provides a status update of the 47 Immediate-need Reliability Projects reported as 86⁹ baseline upgrades in PJM's previous Immediate-need Reliability Projects' Informational Filings that remained outstanding in 2020.¹⁰ Of the 47 projects, 24 upgrades have been placed in-service and will not be included in future Informational Filings.

Finally, as noted in the January 2020 Informational Filing, any projects previously reported in its informational filings that qualified as exempt pursuant to Schedule 6, sections 1.5.8(n) (Lower Voltage Facilities Exemption), (o) (Form 715 Project Exemption)¹¹ or (p) (Substation Equipment Exemption) will continue to be reported in Appendix B until they are energized or canceled. Once energized or canceled, they will be removed from future reports as well.

⁹ Since PJM submitted the January 2020 Informational Filing, Project b2933 was assigned a new Upgrade ID (b2933.3). Baseline upgrade b2933.3 is listed in Appendix B, but it is not a new Project.

¹⁰ In preparing this Informational Filing, PJM reviewed the previously reported baseline upgrades that are included in this Appendix B. For those projects that are "on hold" or in the "engineering and procurement" phase and have anticipated in-service dates five years or greater from Board approval, PJM has added a new column in Appendix B - Column M. Column M provides a short description of the reason for the delay.

¹¹ The Transmission Owner Form No. 715 planning criteria exemption was deleted from the PJM planning process, effective January 23, 2020. *See PJM Interconnection, L.L.C.*, 170 FERC ¶ 16,049 (Jan. 23, 2020) (accepting PJM's revisions to delete section 1.5.8(o) from Schedule 6 of the Operating Agreement).

II. CORRESPONDENCE AND COMMUNICATIONS

Correspondence and communications with respect to this filing should be sent to, and the parties request the Secretary to include on the official service list, the following:

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III. CONCLUSION

PJM respectfully requests that the Commission accept this informational filing as responsive to its reporting requirement as set forth in the PJM Operating Agreement, Schedule 6, section 1.5.8(m)(1) and the March 22 Order.

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Dated: January 29, 2021

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document on those parties on the official Service List compiled by the Secretary in these proceedings.

Dated at Audubon, Pennsylvania this 29th day of January, 2021.

/s/ Jessica M. Lynch

Jessica M. Lynch

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Appendix A

PJM Immediate Need Reliability Projects (Excluded from Window) Approved by the PJM Board in 2020

Project Count	Project	Upgrade ID	Information	Description	Designated Entity for Construction	PJM Transmission Owner Zone	Anticipated In-Service Date	Date that the Transmission Owner actually energized the Immediate-Need Reliability Project	Need-by date of the Immediate-Need Reliability Project	Project Status	PJM Board Approval Date	Immediate Need Reason
1	b3223	b3223.1	This project is to address thermal, voltage and load loss violations in the Northern Neck area	Install a 2nd 230kV circuit with a minimum summer emergency rating of 1047 MVA between Lanexa and Northern Neck Substations. The 2nd circuit will utilize the vacant arms on the double-circuit structures that are being installed on the Line #224 (Lanexa-Northern Neck) End-of-Life rebuild project (b3089).	Dominion	Dominion	12/31/2023		6/1/2023	Planning	12/9/2020	https://www.pjm.com/-/media/committees-groups/committees/teac/2020/20201006/20201006-dominion-northern-neck-area-violations-immediate-need-20200715.ashx
		b3223.2	This project is to address thermal, voltage and load loss violations in the Northern Neck area	Expand the Northern Neck terminal from a 230kV, 4-breaker ring bus to a 6-breaker ring bus.	Dominion	Dominion	12/31/2023		6/1/2023	Planning	12/9/2020	https://www.pjm.com/-/media/committees-groups/committees/teac/2020/20201006/20201006-dominion-northern-neck-area-violations-immediate-need-20200715.ashx
		b3223.3	This project is to address thermal, voltage and load loss violations in the Northern Neck area	Expand the Lanexa terminal from a 6-breaker ring bus to a breaker-and-a-half arrangement.	Dominion	Dominion	12/31/2023		6/1/2023	Planning	12/9/2020	https://www.pjm.com/-/media/committees-groups/committees/teac/2020/20201006/20201006-dominion-northern-neck-area-violations-immediate-need-20200715.ashx
2	b3261	b3261	This project is to address short circuit criteria violation	Upgrade Circuit breaker 'R1' at Tanners Creek 345kV - Install TRV capacitor to increase the rating from 50kA to 63kA	AEP	AEP	12/31/2020		12/31/2020	Planning	12/9/2020	https://www.pjm.com/-/media/committees-groups/committees/teac/2020/20201006/20201006-tanners-creek-345-kv-circuit-breaker-r1-immediate-need-reliability-project.ashx

Appendix B

PJM Immediate Need reliability projects approved prior to 2020, but not energized at the beginning of 2020

Project Count	Project	Upgrade ID	Information	Description	Designated Entity for Construction	PJM Transmission Owner Zone	Anticipated In-Service Date	Date that the Transmission Owner actually energized the Immediate-Need Reliability Project	Need-by date of the Immediate-Need Reliability Project	Project Status	PJM Board Approval Date	Delayed Reason
1	b1696	b1696.1	This project is to address a short circuit criteria violation driven by a board approved project (b1696) and replaces an existing Transmission Owner circuit breaker.	Replace the Idylwood 230 kV '25112' breaker with 50 kA breaker	Dominion	Dominion	5/4/2022		6/1/2017	Under Construction	12/7/2016	
		b1696.2	This project is to address a short circuit criteria violation driven by a board approved project (b1696) and replaces an existing Transmission Owner circuit breaker.	Replace the Idylwood 230 kV '209712' breaker with 50 kA breaker	Dominion	Dominion	12/30/2026		6/1/2017	Engineering Procurement	12/7/2016	Requires coordination with other projects
2	b2496	b2496	This is due to reliability criteria violations in the year 2015.	Replace Franklin 115/34.5 kV transformer #2 with 90 MVA transformer	JCPL	JCPL	6/1/2021		6/1/2015	On Hold	11/5/2014	To be canceled due to decreased load levels
3	b2501	b2501.4	This is due to block load additions and reliability criteria violations in the year 2014.	Build 2 new 69 kV exits to reinforce 69 kV facilities and upgrade conductor between Irish Run 69 kV Switch and Bowerstown 69 kV Switch	AEP	AEP	11/30/2020		6/1/2014	Under Construction	11/5/2014	
4	b2505	b2505	This is due to operational performance and deteriorated infrastructure in the year 2015.	Install structures in river to remove the 115 kV #65 line (Whitestone - Harmony Village 115 kV) from bridge and improve reliability of the line	Dominion	Dominion	4/30/2021		5/31/2016	Under Construction	11/5/2014	
5	b2621	b2621	This is a Pre-FERC 1000 clean up item for which scope began development as part of the 2013 RTEP	Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)	PENELEC	PENELEC	6/16/2020	5/29/2020	6/1/2018	In Service	10/15/2015	
6	b2626	b2626	Immediate need due to Dominion Transmission Planning Criteria - End of Life Criteria Violation	Rebuild the 115 kV Line No.34 (Skiffes Creek - Yorktown) and the double circuit portion of 115kV Line No.61 to current standards with a summer emergency rating of 353 MVA at 115 kV. Rebuild the 2.5 mile tap line to Fort Eustis as Double Circuit line to loop line No.34 in and out of Fort Eustis station to current standard with a summer emergency rating of 393 MVA at 115 kV. Install a 115 kV breaker in line No.34 at Fort Eustis station.	Dominion	Dominion	12/31/2022		12/31/2018	Engineering Procurement	7/29/2019	
7	b2650	b2650	Immediate need due to Dominion Transmission Planning Criteria - End of Life Criteria Violation	Rebuild Twittys Creek - Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV.	Dominion	Dominion	12/31/2020	11/30/2020	12/31/2020	In Service	10/15/2015	
8	b2651	b2651	Immediate need due to Dominion Transmission Planning Criteria - End of Life Criteria Violation	Rebuild Buggs Island - Plywood 115 kV Line #127 (25.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV. The line should be rebuilt for 230 kV and operated at 115 kV.	Dominion	Dominion	12/31/2021		12/31/2021	Under Construction	10/15/2015	
9	b2652	b2652	Immediate need due to Dominion Transmission Planning Criteria - End of Life Criteria Violation	Rebuild Greatbridge - Hickory 115 kV Line #16 and Greatbridge - Chesapeake E.C. to current standard with summer emergency rating of 353 MVA at 115 kV.	Dominion	Dominion	9/30/2022		12/1/2021	Engineering Procurement	10/15/2015	Requires coordination with other projects
10	b2656	b2656	Immediate need due to EKPC Transmission Planning Criteria - low voltage violation in winter due to load forecast updates	Reconductor the Leon - Airport Road 69 kV line section (5.72 miles) using 556.5 MCM ACTW conductor	EKPC	EKPC	11/13/2020		12/1/2018	Under Construction	10/15/2015	
11	b2686	b2686.4	This project is to address short circuit criteria violation	Replace the Remington CT 230 kV breaker "2114T2155" with a 63 kA breaker	Dominion	Dominion	6/1/2020	5/28/2020	6/1/2019	In Service	7/29/2019	
12	b2727	b2727	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the South Canton 138 kV breakers 'K', 'J', 'J1', and 'J2' with 80 kA breakers.	AEP	AEP	7/2/2021		6/1/2018	Engineering Procurement	12/7/2016	Requires coordination with other projects
13	b2752	b2752.8	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the Conastone 230kV '2322 B5' breaker with a 63kA breaker	BGE	BGE	12/31/2022		6/1/2020	Engineering Procurement	12/5/2017	Tied to 9A project which is awaiting state siting approval
		b2752.9	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the Conastone 230kV '2322 B6' breaker with a 63kA breaker	BGE	BGE	12/31/2022		6/1/2020	Engineering Procurement	12/5/2017	Tied to 9A project which is awaiting state siting approval
14	b2753	b2753.3	NERC Reliability Violation - AEP identified overload after ISA's were signed (Y3-068 and Z2-048), and the queue projects have a commercial operation date of January 1, 2019.	Holloway Station - Connect two 138kV 6-wired ckt from "Point A" (currently de-energized and owned by First Energy) in ckt positions previously designated Burger #1 & Burger #2. Install interconnection settlement metering on both circuits exiting Holloway station.	AEP	AEP	4/30/2021	8/31/2020	5/31/2020	In Service	12/7/2016	
		b2753.4	NERC Reliability Violation - AEP identified overload after ISA's were signed (Y3-068 and Z2-048), and the queue projects have a commercial operation date of January 1, 2019.	Double capacity for 6 wire "Burger-Cloverdale No. 2" 138 kV line and connect at Holloway and "Point A"	ATSI	ATSI	8/27/2020	8/27/2020	5/31/2020	In Service	12/7/2016	
		b2753.5	NERC Reliability Violation - AEP identified overload after ISA's were signed (Y3-068 and Z2-048), and the queue projects have a commercial operation date of January 1, 2019.	Double capacity for 6 wire "Burger-Longview" 138 kV line and connect at Holloway and "Point A"	ATSI	ATSI	8/27/2020	8/27/2020	5/31/2020	In Service	12/7/2016	

Appendix B

PJM Immediate Need reliability projects approved prior to 2020, but not energized at the beginning of 2020

Project Count	Project	Upgrade ID	Information	Description	Designated Entity for Construction	PJM Transmission Owner Zone	Anticipated In-Service Date	Date that the Transmission Owner actually energized the Immediate-Need Reliability Project	Need-by date of the Immediate-Need Reliability Project	Project Status	PJM Board Approval Date	Delayed Reason
		b2753.7	NERC Reliability Violation - AEP identified overload after ISA's were signed (Y3-068 and Z2-048), and the queue projects have a commercial operation date of January 1, 2019.	Retire line sections (Dilles Bottom - Bellaire and Moundsville - Dilles Bottom 69 kV lines) south of First Energy 138 kV line corridor, near "Point A". Tie George Washington - Moundsville 69 kV circuit to George Washington - West Bellaire 69 kV circuit.	AEP	AEP	3/1/2023	8/29/2020	5/31/2020	In Service	12/7/2016	
		b2753.9	This project is to address a short circuit criteria violation by modifying an existing Transmission Owner transformer.	Remove/Open Kammer 345/138 kV transformer #301	AEP	AEP	9/13/2021		9/13/2021	Engineering Procurement	7/25/2017	Requires coordination with other projects
15	b2754	b2754.4	This is due to stability issues identified for Martins Creek and Lower Mount Bethel Energy units.	Use ~ 40 route mi. of existing fibers on PPL 230 kV system to establish direct fiber circuits	PPL	PPL	2/28/2020	2/18/2020	6/1/2017	In Service	12/7/2016	
		b2754.5	This is due to stability issues identified for Martins Creek and Lower Mount Bethel Energy units.	Upgrade relaying at Martins Creek 230 kV	PPL	PPL	6/30/2020	3/28/2020	6/1/2017	In Service	12/7/2016	
		b2754.6	This is due to stability issues identified for Martins Creek and Lower Mount Bethel Energy units.	Upgrade relaying at Morris Park 230 kV substation	JCPL	JCPL	2/28/2020	3/11/2020	6/1/2017	In Service	12/7/2016	
		b2754.7	This is due to stability issues identified for Martins Creek and Lower Mount Bethel Energy units.	Upgrade relaying at Gilbert 230 kV substation	JCPL	JCPL	2/28/2020	3/11/2020	6/1/2017	In Service	12/7/2016	
16	b2758	b2758	This project is needed to address Dominion Form 715 criteria for aging infrastructure.	Rebuild Line #549 Dooms – Valley 500kV	Dominion	Dominion	6/15/2020	6/10/2020	6/1/2016	In Service	2/14/2017	
17	b2759	b2759	This project is needed to address Dominion Form 715 criteria for aging infrastructure.	Rebuild Line #550 Mt. Storm – Valley 500kV	Dominion	Dominion	12/31/2022		6/1/2016	Under Construction	2/14/2017	
18	b2779	b2779.1	This project is to address Load Loss Limit violations for the loss of the South Butler-Collingwood 345 kV in the immediate need timeframe.	Construct a new 138 kV station, Sowers, tapping into the Grabill-South Hicksville 138 kV line	AEP	AEP	12/31/2021		6/1/2016	Under Construction	2/14/2017	
		b2779.2	This project is to address Load Loss Limit violations for the loss of the South Butler-Collingwood 345 kV in the immediate need timeframe.	Reconstruct sections of the Butler-N.Hicksville (9.6miles) and Auburn-Butler (9 miles) 69 kV circuits as 138 kV double circuit and extend the 138 kV line from Sowers station (3.5miles)	AEP	AEP	12/31/2021		6/1/2016	Under Construction	2/14/2017	
		b2779.3	This project is to address Load Loss Limit violations for the loss of the South Butler-Collingwood 345 kV in the immediate need timeframe.	Construct a new 345/138 kV SDI Varner Station which will serve a portion of the SDI load from the 138 kV system. Serve Wilmington Tap from new Varner 138 kV station, and install additional breakers at South Butler 138 kV station to comply with AEP Interconnection Guidelines.	AEP	AEP	12/31/2021		6/1/2016	Engineering Procurement	2/14/2017	Requires coordination with other projects
		b2779.4	This project is to address Load Loss Limit violations for the loss of the South Butler-Collingwood 345 kV in the immediate need timeframe.	Loop the 138 kV circuits in-and-out of the new SDI Varner station, resulting in a direct circuit to Auburn, Sowers and Wilmington. String approximately 3 miles of the open side of circuit between Collingwood and Dunton Lake with new conductor, thus establishing a second 345 kV feed (utilizing 9 miles of existing 138 kV feed constructed as 345 kV)	AEP	AEP	12/31/2021		6/1/2016	Engineering Procurement	2/14/2017	Requires coordination with other projects
		b2779.5	This project is to address Load Loss Limit violations for the loss of the South Butler-Collingwood 345 kV in the immediate need timeframe.	Expand Auburn 138 kV bus	AEP	AEP	12/31/2021	5/29/2020	6/1/2016	In Service	2/14/2017	
19	b2836	b2836	This project is needed to address PSEG Form 715 criteria for aging infrastructure.	Convert the N-1340 and T-1372/D-1330 (Brunswick – Trenton) 138 kV circuits to 230 kV circuits	PSEG	PSEG	6/1/2020	4/27/2020	6/1/2017	In Service	2/14/2017	
20	b2837	b2837	This project is needed to address PSEG Form 715 criteria for aging infrastructure.	Convert the F-1358/Z1326 and K1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits	PSEG	PSEG	6/1/2021		6/1/2017	Under Construction	2/14/2017	
21	b2857	b2857	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the Parrish 230kV "CS 825" with 63kA breaker	PECO	PECO	6/1/2020	3/26/2020	6/1/2019	In Service	7/25/2017	
22	b2858	b2858	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the Parrish 230kV "CS 935" with 63kA breaker	PECO	PECO	6/1/2020	4/20/2020	6/1/2019	In Service	7/25/2017	
23	b2862	b2862	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the Grays Ferry 230kV "705" with 63kA breaker	PECO	PECO	6/2/2020	5/4/2020	6/1/2019	In Service	7/25/2017	
24	b2864	b2864	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the Grays Ferry 230kV "775" with 63kA breaker	PECO	PECO	6/2/2020	5/4/2020	6/1/2019	In Service	7/25/2017	
25	b2923	b2923	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the China Tap 230kV "CS 15" breaker with 63kA breaker	PECO	PECO	6/2/2020	4/10/2020	6/1/2019	In Service	10/18/2017	
26	b2924	b2924	This project is to address a short circuit criteria violation by replacing an existing Transmission Owner circuit breaker.	Replace the Emilie 230kV "CS 15" breaker with 63kA breaker	PECO	PECO	6/2/2020	3/20/2020	6/1/2019	In Service	10/18/2017	

Appendix B

PJM Immediate Need reliability projects approved prior to 2020, but not energized at the beginning of 2020

Project Count	Project	Upgrade ID	Information	Description	Designated Entity for Construction	PJM Transmission Owner Zone	Anticipated In-Service Date	Date that the Transmission Owner actually energized the Immediate-Need Reliability Project	Need-by date of the Immediate-Need Reliability Project	Project Status	PJM Board Approval Date	Delayed Reason
27	b2933	b2933	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Third Source for Springfield Rd. and Stanley Terrace Stations	PSEG	PSEG	10/31/2021		6/1/2018	Under Construction	10/18/2017	
		b2933.1	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Construct a 230/69 kV station at Springfield.	PSEG	PSEG	10/31/2021		6/1/2018	Under Construction	10/18/2017	
		b2933.2	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Construct a 230/69 kV station at Stanley Terrace	PSEG	PSEG	10/31/2021		6/1/2018	Under Construction	10/18/2017	
		b2933.3	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace	PSEG	PSEG	10/31/2021		6/1/2018	Engineering Procurement	10/18/2017	
28	b2935	b2935	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Third Supply for Runnemedes 69kV and Woodbury 69kV	PSEG	PSEG	12/30/2022		6/1/2018	Under Construction	10/18/2017	
		b2935.1	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Build a new 230/69 kV switching substation at Hilltop utilizing the PSE&G property and the K-2237 230 kV line.	PSEG	PSEG	12/30/2022		6/1/2018	Engineering Procurement	10/18/2017	Delays in ability to obtain property necessary for this upgrade are slowing construction of this upgrade
		b2935.2	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Build a new line between Hilltop and Woodbury 69 kV providing the 3rd supply	PSEG	PSEG	12/30/2022		6/1/2018	Under Construction	10/18/2017	
		b2935.3	This project is needed to address PSEG Form 715 criteria for N-1-1 load loss criteria	Convert Runnemedes's straight bus to a ring bus and construct a 69 kV line from Hilltop to Runnemedes 69 kV.	PSEG	PSEG	3/30/2020	3/6/2020	6/1/2018	In Service	10/18/2017	
29	b2943	b2943	This project is to address generator deliverability and common mode violation in the immediate need timeframe.	Perform a LIDAR study on the Clifty Creek - Dearborn 345 kV line to increase the Summer Emergency rating above 1023MVA).	OVEC	OVEC	4/15/2020		6/1/2018	Engineering Procurement	12/4/2018	
30	b2955	b2955	Generation deliverability violations in the immediate need timeframe on the VFT-Warinanco and Warinanco-Aldene 230 kV lines.	Wreck and re-build the VFT – Warinanco – Aldene 230 kV circuit with paired conductor.	PSEG	PSEG	12/31/2020		6/1/2018	Under Construction	12/5/2017	
31	b2956	b2956	Generation deliverability violations in the immediate need timeframe on the Cedar Grove - Jackson Road 230 kV line.	Replace existing cable on Cedar Grove-Jackson Rd. with 5000kcmil XLPE cable.	PSEG	PSEG	12/31/2020		6/1/2018	Under Construction	12/5/2017	
32	b2970	b2970	This project is to address multiple Generation Deliverability, Base Case Analysis, and N-1-1 Thermal violations on the Ringgold 230/138 kV transformers #3 and 4 in the immediate need timeframe.	Ringgold - Catoctin Solution	APS	APS	6/1/2022		6/1/2020	Engineering Procurement	12/5/2017	Tied to 9A project which is awaiting state siting approval
		b2970.1	This project is to address multiple Generation Deliverability, Base Case Analysis, and N-1-1 Thermal violations on the Ringgold 230/138 kV transformers #3 and 4 in the immediate need timeframe.	Install two new 230 kV positions at Ringgold for 230/138 kV transformers.	APS	APS	6/1/2022		6/1/2020	Engineering Procurement	12/5/2017	Tied to 9A project which is awaiting state siting approval
		b2970.2	This project is to address multiple Generation Deliverability, Base Case Analysis, and N-1-1 Thermal violations on the Ringgold 230/138 kV transformers #3 and 4 in the immediate need timeframe.	Install new 230 kV position for the Catoctin 230 kV line at Ringgold.	APS	APS	6/1/2022		6/1/2020	Engineering Procurement	12/5/2017	Tied to 9A project which is awaiting state siting approval
		b2970.3	This project is to address multiple Generation Deliverability, Base Case Analysis, and N-1-1 Thermal violations on the Ringgold 230/138 kV transformers #3 and 4 in the immediate need timeframe.	Install one new 230 kV breaker at Catoctin substation.	APS	APS	6/1/2022		6/1/2020	Engineering Procurement	12/5/2017	Tied to 9A project which is awaiting state siting approval
		b2970.4	This project is to address multiple Generation Deliverability, Base Case Analysis, and N-1-1 Thermal violations on the Ringgold 230/138 kV transformers #3 and 4 in the immediate need timeframe.	Install new 230 / 138 kV transformer at Catoctin substation. Convert Ringgold-Catoctin 138 kV Line to 230 kV operation.	APS	APS	6/1/2022		6/1/2020	Engineering Procurement	12/5/2017	Tied to 9A project which is awaiting state siting approval
33	b2978	b2978	This project is to address ongoing high voltages on the EHV system in the Dominion Carson area under light load conditions	Install 2-125 MVAR STATCOMs at Rawlings and 1-125 MVAR STATCOM at Clover 500 kV Substations	Dominion	Dominion	11/30/2021		5/31/2021	Under Construction	2/13/2018	
34	b2996	b2996	This project is to address generator deliverability thermal and voltage violation	New Flint Run 500-138 kV substation	APS	APS	12/1/2021		6/1/2019	Under Construction	7/31/2018	
35	b2998	b2998	This is project to address operational performance issue.	Install a 120 MVAR 345 kV shunt inductor at Powerton (the 345 kV yard already contains an empty bus position on the ring we only need a switching breaker for the inductor)	ComEd	ComEd	6/1/2021	3/26/2020	6/1/2021	In Service	7/31/2018	
36	b3006	b3006	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Replace four Yukon 500/138 kV transformers with three transformers with higher rating and reconfigure 500 kV bus	APS	APS	12/23/2021		6/1/2021	Under Construction	7/31/2018	
37	b3011	b3011.1	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Construct new Route 51 substation and connect 10 138 kV lines to new substation	APS	APS	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3011.2	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Upgrade terminal equipment at Yukon to increase rating on Yukon to Charleroi #2 138 kV line (New Yukon to Route 51 #4 138 kV line)	APS	APS	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.

Appendix B

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		b3011.5	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #3 138 kV line	APS	APS	6/1/2021		6/1/2021	Under Construction	7/31/2018	
		b3011.6	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Upgrade remote end relays for Yukon –Allenport – Iron Bridge 138 kV line	APS	APS	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3011.7	This project is to address short circuit criteria violation due to generator deactivation	Replace the line terminal equipment and line breaker #85 at Dravosburg 138 kV substation in the Elwyn Z-70 line position/bay, with the breaker duty as 63KA	DL	DL	6/1/2021	4/15/2020	6/1/2021	In Service	7/29/2019	
38	b3012	b3012.1	This project is to address thermal vilations due to generator deactivation - DAVIS BESSE 1, PERRY 1, BEAVER VALLEY 1, BEAVER VALLEY 2	Construct two new 138 kV ties with the single structure from APS's new substation to DUQ's new substation. The estimated line length is approximately 4.7 miles. The line is planned to use multiple ACSR conductors per phase.	APS	APS	6/1/2021		6/1/2021	On Hold	7/29/2019	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3012.2	This project is to address thermal vilations due to generator deactivation - DAVIS BESSE 1, PERRY 1, BEAVER VALLEY 1, BEAVER VALLEY 2	Construct two new ties from a new First Energy substation to a new Duquesne substation by using two separate structures - Duquesne portion.	DL	DL	6/1/2021		6/1/2021	On Hold	7/29/2019	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
39	b3015	b3015.1	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Construct new Elrama 138 kV substation and connect 7 138 kV lines to new substation	DL	DL	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3015.2	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Reconductor Elrama to Wilson 138 kV line. 4.8 miles	DL	DL	6/1/2021	9/30/2020	6/1/2021	In Service	7/31/2018	
		b3015.3	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Reconductor Dravosburg to West Mifflin 138 kV line. 3 miles	DL	DL	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3015.4	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Run new conductor on existing tower to establish the new Dravosburg-Elrama (Z-75) circuit. 10 miles	DL	DL	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3015.7	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Reconductor Wilson to West Mifflin 138 kV line. 2 miles. 795ACSS/TW 20/7	DL	DL	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
40	b3017	b3017.1	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Rebuild Glade to Warren 230 kV line with hi-temp conductor and substation terminal upgrades. 11.53 miles. New conductor will be 1033 ACSR. Existing conductor is 1033 ACSR.	PENELEC	PENELEC	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3017.2	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Glade substation terminal upgrades. Replace bus conductor, wave traps, and relaying.	PENELEC	PENELEC	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
		b3017.3	This project is to address generator deliverability thermal violation due to Davis Besse, Perry and Beaver Valley 1&2 deactivation	Warren substation terminal upgrades. Replace bus conductor, wave traps, and relaying.	PENELEC	PENELEC	6/1/2021		6/1/2021	On Hold	7/31/2018	Upgrade was identified to address generation deactivation notice. Deactivation notice was withdrawn. PJM is reevaluating continued need for upgrade.
41	b3026	b3026	This project is to address generator deliverability violation in the immediate need timeframe.	Re-conductor the entire 230 kV Line No.274 (Pleasant View – Ashburn – Beaumeade) using a higher capacity conductor with an approximate rating of 1572 MVA.	Dominion	Dominion	12/31/2021		6/1/2021	Under Construction	10/2/2018	
42	b3027	b3027.1	This project is to address generator deliverability violation in the immediate need timeframe.	Add a 2nd 500/230 kV 840 MVA transformer at Dominion's Ladysmith Substation	Dominion	Dominion	6/1/2021		6/1/2021	Under Construction	12/4/2018	
		b3027.2	This project is to address generator deliverability violation in the immediate need timeframe.	Re-conductor Line #2089 between Ladysmith and Ladysmith CT Substations to increase the line rating from 1047 MVA to 1225 MVA.	Dominion	Dominion	6/1/2021		6/1/2021	Under Construction	12/4/2018	
		B3027.3	This project is to address short circuit violation	Replace the Ladysmith 500kV breaker "H1T581" with 50kA breaker	Dominion	Dominion	6/1/2021		6/1/2021	Under Construction	12/4/2018	
		B3027.4	This project is to address short circuit violation	Update the nameplate for Ladysmith 500kV breaker "H1T575" to be 50kA breaker	Dominion	Dominion	6/1/2021		6/1/2021	Under Construction	12/4/2018	
		B3027.5	This project is to address short circuit violation	Update the nameplate for Ladysmith 500kV breaker "568T574" (will be renumbered as "H2T568") to be 50kA breaker	Dominion	Dominion	6/1/2021		6/1/2021	Under Construction	12/4/2018	
43	b3108	b3108.1	This project is to address Operational Performance issue	Install 100 MVAR reactor at Miami 138 kV substation	Dayton	Dayton	12/31/2021		6/1/2019	Engineering Procurement	7/29/2019	
		b3108.2	This project is to address Operational Performance issue	Install 100 MVAR reactor at Sugarcreek 138 kV substation	Dayton	Dayton	12/31/2021		6/1/2019	Engineering Procurement	7/29/2019	

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		b3108.3	This project is to address Operational Performance issue	Install 100 MVAR reactor at Hutchings 138 kV substation	Dayton	Dayton	12/31/2021		6/1/2019	Engineering Procurement	7/29/2019	
44	b3115	b3115	This project is to address issue due to generator deactivation - Three Mile Island 1	Provide new station service to control building from 230 kV bus (served from plant facilities presently).	ME	ME	1/31/2021		9/30/2019	Engineering Procurement	7/29/2019	
45	b3120	b3120	This project is to address short circuit criteria violation	Replace the Whippain 230 kV breaker "125" with a 63 kA breaker.	PECO	PECO	6/1/2021		6/1/2021	Engineering Procurement	12/3/2019	
46	b3124	b3124	This project is to address issue due to generator deactivation - Bruce Mansfield	Separate metering, station power, and communication at Bruce Mansfield 345 kV station	ATSI	ATSI	6/11/2021		12/31/2020	Engineering Procurement	12/3/2019	
47	b3129	b3129	This project is to address issue due to generator deactivation - Conesville	At Conesville 138 kV station: Remove line leads to generating units, transfer plant AC service to existing station service feeds in Conesville 345/138 kV yard, and separate and reconfigure protection schemes	AEP	AEP	7/31/2020		12/31/2020	Engineering Procurement	12/3/2019	