

Annual ARR Allocation and FTR Auction Transmission Outage Modeling

PJM determines the transmission outages to model in the simultaneous feasibility test utilized in the Annual ARR Allocation and FTR Auction using the following procedure.

PJM executes the SFT analysis on transmission outages as follows:

1. PJM begins with the initial outage list as it is submitted to PJM by the transmission owners posted on the PJM OASIS. This is a raw list of outages available to the public on the PJM OASIS page. This list is not necessarily a list of approved outages or actual outages that will be occurring as it changes daily and many of the outages are not yet approved. This list consists of all transmission outages of duration of two weeks or longer. Transmission outages will only be considered in final model if scheduled for at least two months or if identified in step four below.
2. PJM reviews the initial outage list for all PJM transmission zones and identifies outages that are occurring during the period of the Annual ARR allocation and FTR Auction which do not occur simultaneously. Outages often occur during different times of the year and would not be approved to occur simultaneously because they would cause reliability concerns. Therefore, PJM models the best representation of outages to reflect the expected conditions of the auction time period. In many instances it is impractical and unrealistic to model multiple outages in a similar region that occur during different time periods because the Annual ARR/FTR model is a single year period and if these multiple outages were modeled the optimization program would fail because of a power imbalance or infeasibility.
3. PJM market engineers also review all transmission outages of interest with the PJM interconnection and operations group for the likelihood of the outages actually occurring. In many instances outages are submitted to PJM and posted on OASIS that are not yet approved and will be delayed, cancelled, or rescheduled. Outages might be rescheduled, cancelled, or delayed for reasons such as cancelled transmission upgrades, conflicts with other outages, maintenance cancellations, etc. This information is gathered by the PJM Interconnection Planning department, PJM System Operations department, and the actual transmission owners.
4. PJM market engineers will review the transmission outage list and identify transmission outages that could have a large impact on congestion and possibly FTR revenue adequacy. This determination is made by comparing transmission outages to historical data, focusing on higher voltage transmission outages, considering outage duration, and performing power flow congestion analysis.
5. After this analysis is performed on the initial OASIS outage list and PJM determines the actual outages that will be placed in the optimization program, PJM posts a separate FTR outage list to the FTR web page. This separate FTR outage list is posted publicly along with the actual FTR model usually at least one week before the

bidding window opens so that PJM members have a transparent view of the conditions to be used for the optimization program.

PJM must use reasonable assumptions for the topology to be used as part of the optimization program. The goal of the simultaneous feasibility determination shall be to ensure that there are sufficient revenues from Transmission Congestion Charges to satisfy all Financial Transmission Rights obligations for the auction period under expected conditions and to ensure that there are sufficient revenues from the Annual Financial Transmission Right Auction to satisfy all Auction Revenue Rights obligations.

The SFT analysis has resulted in the below transmission outages to be modeled in the 2021/2022 Annual ARR Allocation and FTR Auction.

2021/2022 Annual ARR/FTR Outages						
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day	
AE	BECKETT 69 KV BEC-PAU	LINE	All	12/17/2021	3/7/2022	
AE	CARNEYPT69 KV CAR-CHU	LINE	All	1/5/2022	5/6/2022	
AE	CARNEYPT69 KV CAR-PENN	LINE	All	1/5/2022	5/6/2022	
AE	CEDAR 230 KV CEDAR T8	XFRM	All	9/24/2021	12/6/2021	
AE	CORSON 138 KV COR-MER	LINE	All	10/25/2021	4/18/2022	
AE	ENGLAND 138 KV ENG-MDT	LINE	All	9/24/2021	5/9/2022	
AE	ENGLAND 138 KV ENG-MER	LINE	All	9/24/2021	4/6/2022	
AE	MONR AE 230 KV MON #3	XFRM	All	9/20/2021	3/6/2022	
AE	OLDMAN 69 KV OLD-PEN	LINE	All	1/5/2022	5/6/2022	
AE	SECONDDST69 KV SEC-SHE2	LINE	All	10/25/2021 2/22/2022	10/28/2021 5/6/2022	
AEP-AP	AMOS 138 KV 7-S	XFRM	All	10/25/2021	11/19/2021	
AEP-AP	AMOS 34 KV 7-T	XFRM	All	10/25/2021	11/19/2021	
AEP-AP	AMOS 345 KV 7-P	XFRM	All	10/25/2021	11/19/2021	
AEP-AP	AXTONAEP765 KV . 1	XFRM	All	12/1/2021 3/22/2022	12/1/2021 4/28/2022	
AEP-AP	AXTONAEP765 KV AXT-JAC1	LINE	All	12/1/2021 3/22/2022	12/1/2021 4/28/2022	
AEP-AP	CHEMICAL138 KV . 1	XFRM	All	9/30/2017	12/31/2022	
AEP-AP	CHEMICAL138 KV . 2	XFRM	All	8/14/2019	12/31/2022	
AEP-AP	GALAX 69 KV GAL-JUB1	LINE	All	9/8/2021	2/11/2022	
AEP-AP	JUBALEAR138 KV . 1	XFRM	All	9/8/2021	2/11/2022	
AEP-AP	KAMMER2 765 KV KAM-SCA1	LINE	All	9/20/2021	12/31/2021	
AEP-AP	KAMMER2 765 KV KAM-VAS	LINE	All	4/5/2021 9/15/2021 3/15/2022	6/11/2021 11/9/2021 5/6/2022	
AEP-AP	MULLENS 138 KV MUL-PIE	LINE	All	9/21/2021	12/9/2021	
AEP-AP	WYOMING2765 KV 1	XFRM	All	3/15/2022	4/26/2022	
AEP-IM	ALLENIM 138 KV ALL-DAW	LINE	All	8/17/2021 10/23/2021	9/14/2021 2/15/2022	
AEP-IM	ALLENIM 138 KV ALL-LIN3	LINE	All	8/17/2021 10/19/2021	9/28/2021 4/26/2022	

2021/2022 Annual ARR/FTR Outages						
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day	
AEP-IM	BENTONHA138 KV BEN-CRY1	LINE	All	3/15/2021	9/10/2021	
AEP-IM	BENTONHA138 KV BEN-RIV2	LINE	All	3/15/2021	11/5/2021	
AEP-IM	BLUFFPOI138 KV BLU-JAY1	LINE	All	3/15/2021 9/20/2021 10/12/2021	6/15/2021 10/1/2021 12/17/2021	
AEP-IM	COLLINGW345 KV COL-HIP	LINE	All	9/1/2021	12/1/2021	
AEP-IM	COLLINGW345 KV COL-ROB1	LINE	All	6/15/2021	12/1/2021	
AEP-IM	COLLINGW345 KV COL-SBU1	LINE	All	9/1/2021	12/1/2021	
AEP-IM	DEERCREE138 KV DEE-MUL1	LINE	All	11/29/2021 2/14/2022	12/6/2021 6/2/2022	
AEP-IM	DELAWAIM138 KV DEL-HOG1	LINE	All	3/8/2021 8/16/2021 9/13/2021 3/4/2022 5/21/2022	6/4/2021 8/20/2021 12/18/2021 4/24/2022 5/22/2022	
AEP-IM	DELAWAIM138 KV DEL-LAN1	LINE	All	9/13/2021 3/4/2022 5/21/2022	12/18/2021 4/24/2022 5/22/2022	
AEP-IM	DEQUINE 345 KV DEQ-WES1	LINE	All	7/19/2021	10/22/2021	
AEP-IM	DESOTO 138 KV DES-JAY1	LINE	All	3/15/2021 9/15/2021 10/12/2021	6/15/2021 10/1/2021 12/17/2021	
AEP-IM	DUMONT2 765 KV DUM-GRE1	LINE	All	9/1/2021	4/1/2022	
AEP-IM	HACIENDA138 KV HAC-HAR1	LINE	All	2/21/2022	6/2/2022	
AEP-IM	HARPER 138 KV HAR-MIL1	LINE	All	9/15/2021 10/19/2021 2/28/2022	9/28/2021 2/18/2022 4/26/2022	
AEP-IM	ILLINOIS138 KV ILL-IND1	LINE	All	1/24/2022	5/13/2022	
AEP-IM	ILLINOIS138 KV ILL-SOR1	LINE	All	1/24/2022	5/13/2022	
AEP-IM	ILLINOIS138 KV XF1	XFRM	All	1/24/2022	5/13/2022	
AEP-IM	KENZIECR138 KV KEN-RIV1	LINE	All	2/4/2020 9/13/2021	9/10/2021 11/5/2021	
AEP-IM	NICKERSO138 KV NIC-SOD1	LINE	All	4/27/2021	8/26/2021	
AEP-IM	PIPECREE138 KV PIP-STR	LINE	All	1/3/2022	11/3/2023	
AEP-IM	RICHMOND138 KV 2	XFRM	All	8/9/2021 11/29/2021	9/3/2021 12/1/2021	
AEP-IM	RICHMOND138 KV RIC-SEL1	LINE	All	7/12/2021 8/9/2021 11/29/2021	7/16/2021 9/3/2021 12/1/2021	
AEP-KY	BAKER 765 KV BAK-BRO1	LINE	All	9/21/2021	10/27/2021	
AEP-KY	HAZARD 161 KV 3	XFRM	All	6/1/2021	12/17/2021	
AEP-KY	HAZARD 161 KV HAZ-WOO	LINE	All	6/1/2021	12/17/2021	
AEP-KY	JOHNSCRE138 KV JOH-CED1	LINE	All	9/20/2021 9/27/2021 10/4/2021 10/25/2021	9/24/2021 10/1/2021 10/8/2021 11/17/2021	

2021/2022 Annual ARR/FTR Outages					
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day
AEP-OH	ADAMSAEP138 KV ADA-SEA1	LINE	All	6/1/2021	11/9/2021
AEP-OH	BEATTY 138 KV 4-S	XFRM	All	2/2/2022	5/26/2022
AEP-OH	BEATTY 138 KV BEA-MCC1	LINE	All	9/22/2021 2/2/2022 5/11/2022	11/16/2021 2/8/2022 5/24/2022
AEP-OH	BEATTY 345 KV 4-P	XFRM	All	2/2/2022	5/26/2022
AEP-OH	BIXBY 138 KV BIX-BUC1	LINE	All	3/16/2022	6/7/2022
AEP-OH	BRITTON 138 KV BRI-DUB	LINE	All	9/15/2021	12/7/2021
AEP-OH	BUCKEYE 138 KV BUC-GAY1	LINE	All	1/5/2022	6/7/2022
AEP-OH	CARROLLT138 KV CAR-SUN1	LINE	All	7/6/2020	6/30/2021
AEP-OH	ELEIPSIC138 KV ELE-RIC1	LINE	All	3/7/2022	11/20/2022
AEP-OH	ELIMA 138 KV ELI-NWO1	LINE	All	9/8/2021	5/24/2022
AEP-OH	FISHER 138 KV FIS-TRA1	LINE	All	9/27/2021 1/6/2022	12/7/2021 1/7/2022
AEP-OH	HARRISCS138 KV 1	XFRM	All	9/8/2021	11/29/2021
AEP-OH	HARRISCS69 KV HAR-SOU1	LINE	All	9/8/2021	11/29/2021
AEP-OH	HILLSBOR138 KV HIL-MIDS	LINE	All	3/29/2021 3/8/2022	6/24/2021 5/26/2022
AEP-OH	HOLLOWAY138 KV HOL-NOT1	LINE	All	5/24/2021	9/10/2021
AEP-OH	HOLLOWAY138 KV HOL-NOT2	LINE	All	5/24/2021	9/10/2021
AEP-OH	ISABELLA138 KV ISA-NNEW	LINE	All	7/14/2021 2/15/2022	7/14/2021 9/16/2022
AEP-OH	KIRK 345 KV T4	XFRM	All	4/6/2020	12/30/2021
AEP-OH	MADDOXCR345 KV ELI-MAD	LINE	All	9/15/2021	11/30/2021
AEP-OH	NEWCOMER138 KV 1-P	XFRM	All	9/8/2021	12/14/2021
AEP-OH	NFINDLAY138 KV NFI-NWO1	LINE	All	9/8/2021	5/24/2022
AEP-OH	NNEWARK 138 KV NNE-CRO1	LINE	All	2/15/2022	9/16/2022
AEP-OH	NNEWARK 138 KV NNE-SHA1	LINE	All	9/7/2021	4/28/2022
AEP-OH	NWOODCOC138 KV 1-P	XFRM	All	9/8/2021	5/24/2022
AEP-OH	NWOODCOC34 KV 1-T	XFRM	All	9/8/2021	5/24/2022
AEP-OH	NWOODCOC69 KV 1-S	XFRM	All	9/8/2021	5/24/2022
AEP-OH	SCANTON234 KV 3-T	XFRM	All	9/20/2021	12/31/2021
AEP-OH	SCANTON2345 KV 3-S	XFRM	All	9/20/2021	12/31/2021
AEP-OH	SCANTON2765 KV 3-P	XFRM	All	9/20/2021	12/31/2021
APSS	BELMONT 500 KV BEL-HAR	LINE	All	9/13/2021	10/12/2021
APSS	CATOCTIN138 KV CAT-GAR	LINE	All	9/1/2021 1/4/2022 3/7/2022 4/11/2022	9/6/2021 1/12/2022 3/27/2022 6/1/2022
APSS	DOUBS 500 KV 583	LINE	All	9/20/2021	10/15/2021
APSS	FROSTOWN230 KV FRO-RIN	LINE	All	9/1/2021	3/16/2022
APSS	GARFLD_T138 KV GAR-RIN	LINE	All	9/1/2021 4/5/2022	3/13/2022 6/1/2022
APSS	HATFIRES138 KV HATR-LAR	LINE	All	3/21/2020	12/31/2099
APSS	MEADOWBR500 KV LOU-MEA	LINE	All	7/12/2021	8/13/2021

2021/2022 Annual ARR/FTR Outages					
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day
APSS	RINGGOLD230 KV T4	XFRM	All	9/3/2021 3/21/2022	3/16/2022 4/4/2022
APSS	YUKON 500 KV TR6	XFRM	All	10/4/2021	12/31/2021
APSS	YUKON 500 KV TRAN 2	XFRM	All	9/13/2021	12/31/2021
APSS	YUKON 500 KV TRAN 3	XFRM	All	9/23/2021	12/31/2021
BC	BRANDONS230 KV BRA-RIV5	LINE	All	9/20/2021 12/14/2021	10/4/2021 12/17/2021
BC	BUENAVIS230 KV 230-2	XFRM	All	9/9/2021	2/4/2022
BC	BUENAVIS230 KV 230-5	XFRM	All	9/9/2021	2/4/2022
BC	CONASTON230 KV CNS-NOR1	LINE	All	9/13/2021 12/16/2021 3/1/2022	10/28/2021 12/21/2021 4/22/2022
BC	CONASTON230 KV CNS-OTT	LINE	All	9/27/2021	10/26/2021
BC	EDGEWOO1115 KV EDG-JOP0	LINE	All	9/20/2021 10/11/2021 11/3/2021 3/28/2022	10/1/2021 10/22/2021 11/16/2021 4/26/2022
BC	GENMOTOR115 KV 110-2	XFRM	All	1/15/2020	12/31/2021
BC	GRACETON230 KV GRA-SAF	LINE	All	10/26/2021 3/23/2022	12/15/2021 5/1/2022
BC	JERICHOP230 KV JER-WAU1	LINE	All	9/9/2021	2/4/2022
BC	NORTHWES115 KV FIN-NOR	LINE	All	10/4/2021 12/3/2021 5/22/2022	10/29/2021 12/6/2021 5/28/2022
BC	NORTHWES115 KV NOR-NOR2	LINE	All	10/4/2021 11/29/2021 5/29/2022	10/29/2021 12/10/2021 6/4/2022
BC	NORTHWES115 KV NOR-WHIT	LINE	All	10/4/2021	10/29/2021
BC	NORTHWES230 KV 230-2	XFRM	All	10/4/2021	10/29/2021
BC	PERRYMAN115 KV EDG-PER0	LINE	All	9/20/2021 10/11/2021 11/3/2021 3/28/2022	10/1/2021 10/22/2021 11/16/2021 4/26/2022
COMED	103 LISL138 KV TR83CT-S	XFRM	All	11/8/2021	1/27/2022
COMED	103 LISL345 KV TR83CT-P	XFRM	All	11/8/2021	1/27/2022
COMED	108 LOCK345 KV 10805	LINE	All	9/13/2021	1/30/2022
COMED	108 LOCK345 KV 10806	LINE	All	9/13/2021	1/30/2022
COMED	11609 138 KV 11609 9	LINE	All	8/30/2021 11/1/2021	10/15/2021 12/3/2021
COMED	12 DRES345 KV 1202	LINE	All	11/1/2021 4/4/2022	11/17/2021 5/5/2022
COMED	12 DRES345 KV 1227	LINE	All	11/1/2021 2/28/2022	12/17/2021 3/31/2022
COMED	150 CALU345 KV 17723 2	LINE	All	10/25/2021	12/19/2021
COMED	150 CALU345 KV 17723 3	LINE	All	10/25/2021	12/19/2021
COMED	153 TAYL345 KV 17723 1	LINE	All	10/25/2021	12/19/2021

2021/2022 Annual ARR/FTR Outages						
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day	
COMED	D438 138 KV 5104 13	LINE	All	11/3/2021	1/19/2022	
CPL	PERSON4 230 KV 296C	LINE	All	10/25/2021 3/23/2022 4/25/2022	11/23/2021 4/19/2022 5/23/2022	
DAYTON	09GRNVIL138 KV BK-7	XFRM	All	9/7/2021	10/26/2021	
DAYTON	STUART2 345 KV STU-CLI1	LINE	All	10/1/2021	11/1/2021	
DAYTON	WMILTON 138 KV WMI-09G1	LINE	All	9/7/2021	10/26/2021	
DEOK	08TBSCO1138 KV 08T-PIE1	LINE	All	11/8/2021	12/17/2021	
DEOK	BUFFINGT345 KV BUF-PIE1	LINE	All	10/25/2021	12/17/2021	
DEOK	CLINTONC138 KV CLI-HIL	LINE	All	3/29/2021 3/8/2022	6/24/2021 5/26/2022	
DEOK	CLINTONC138 KV CLI-WAR	LINE	All	10/4/2021 3/7/2022	12/17/2021 5/20/2022	
DEOK	MIAMIFOR138 KV MIA-CLI1	LINE	All	2/28/2022	4/1/2022	
DEOK	SILVERGR138 KV BEC-SIL	LINE	All	11/8/2021 5/16/2022	12/17/2021 5/27/2022	
DEOK	SILVERGR345 KV SIL-ZIM1	LINE	All	11/1/2021 3/7/2022 4/25/2022	11/12/2021 3/18/2022 5/27/2022	
DEOK	TODDHUNT345 KV 17	XFRM	All	7/27/2021	8/19/2021	
DOM-C	ALTAVSTA138 KV TX4	XFRM	All	10/12/2021	3/3/2022	
DOM-C	BRIERY 230 KV 235A1	LINE	All	2/15/2022 4/15/2022	3/1/2022 5/14/2022	
DOM-C	BRISTERS500 KV 552	LINE	All	9/16/2021 3/1/2022	12/31/2021 6/14/2022	
DOM-C	CARSON4 500 KV TX1H	XFRM	All	8/16/2021	12/16/2021	
DOM-C	CHICKHOM230 KV 287A	LINE	All	6/28/2021 10/28/2021	7/1/2021 11/8/2021	
DOM-C	CLARKVIL115 KV 127C	LINE	All	6/1/2021	7/31/2021	
DOM-C	CRSTLHDP115 KV CRY-HUBE	LINE	All	10/4/2021 3/1/2022	11/1/2021 3/29/2022	
DOM-C	DAVISDRV230 KV 2033	LINE	All	6/1/2021	9/3/2021	
DOM-C	FARMVILL230 KV TX4	XFRM	All	8/30/2021	10/17/2021	
DOM-C	HARMONYV230 KV TX2	XFRM	All	5/11/2021 9/28/2021	7/2/2021 11/12/2021	
DOM-C	HARMONYV230 KV TX4	XFRM	All	5/11/2021 9/28/2021	6/9/2021 11/12/2021	
DOM-C	KINDERTN115 KV 127D	LINE	All	6/1/2021	7/31/2021	
DOM-C	NANNA4 230 KV RSS3	XFRM	All	9/13/2021	10/7/2021	
DOM-C	NANNA4 500 KV TX6	XFRM	All	9/13/2021	10/7/2021	
DOM-C	NEWROAD 115 KV 49	LINE	All	5/3/2021	11/30/2021	
DOM-C	PAPERMIL230 KV 2016C	LINE	All	5/11/2021 9/28/2021	6/9/2021 11/12/2021	
DOM-C	REEDYCRK115 KV 127B	LINE	All	6/1/2021	10/31/2021	
DOM-C	TURNER4 115 KV 92B	LINE	All	10/4/2021 1/10/2022	11/5/2021 2/11/2022	

2021/2022 Annual ARR/FTR Outages					
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day
DOM-C	WALTHALL115 KV 100A1	LINE	All	3/7/2022	6/3/2022
DOM-E	COMNATGS115 KV 74CB	LINE	All	1/10/2022 1/15/2022	1/13/2022 6/15/2022
DOM-E	FTEUSTIS115 KV 34B1	LINE	All	6/28/2021 12/14/2021	11/1/2021 2/14/2022
DOM-E	GRAFTON4115 KV 34C	LINE	All	6/28/2021	12/30/2022
DOM-E	GREENWCH230 KV 2038A	LINE	All	7/21/2021	10/12/2021
DOM-E	LANEXA 230 KV 224A	LINE	All	1/4/2022	6/9/2023
DOM-E	LEEHAL 115 KV 34A2	LINE	All	6/28/2021 11/5/2021 2/1/2022	11/1/2021 12/14/2021 12/30/2022
DOM-E	SEPTA4 500 KV 578A	LINE	All	4/5/2022	5/2/2022
DOM-E	THOMPSCR115 KV 120B	LINE	All	2/2/2021	10/28/2021
DOM-E	YORKTOW4115 KV 34D	LINE	All	7/5/2021	1/31/2022
DOM-E	YORKTOW4115 KV 61C	LINE	All	7/5/2021	1/31/2022
DOM-N	ASHBURN 230 KV 227A	LINE	All	1/1/2022	6/15/2022
DOM-N	ASHBURN 230 KV 227B	LINE	All	1/1/2022	6/15/2022
DOM-N	ASHBURN 230 KV TX2	XFRM	All	1/1/2022	6/15/2022
DOM-N	BEAUMEAD230 KV TX2	XFRM	All	1/1/2022	6/15/2022
DOM-N	BULLRUN 230 KV 295C	LINE	All	3/14/2022	5/26/2022
DOM-N	BULLRUN 230 KV TX3	XFRM	All	3/14/2022	5/26/2022
DOM-N	CHANCELR500 KV TX1	XFRM	All	9/16/2021 3/1/2022	12/31/2021 6/14/2022
DOM-N	ELKRUNDP230 KV 2114B	LINE	All	7/12/2021 11/15/2021	10/1/2021 1/28/2022
DOM-N	EPG 230 KV WOO-EPG	LINE	All	9/8/2021 9/30/2021	9/14/2021 12/31/2021
DOM-N	HAYMARKT230 KV HAY-HEA1	LINE	All	1/15/2021	3/30/2022
DOM-N	HAYMARKT230 KV HAY-HEA2	LINE	All	1/15/2021	3/30/2022
DOM-N	MIDDLEBG115 KV TX1	XFRM	All	5/3/2021	11/30/2021
DOM-N	MIDDLEBG115 KV TX2	XFRM	All	5/3/2021	11/30/2021
DOM-N	MIDDLEBG115 KV TX5	XFRM	All	5/3/2021	11/30/2021
DOM-N	PLEASNTV230 KV 274D	LINE	All	9/15/2021 3/1/2022	12/31/2021 6/14/2022
DOM-N	WALNEY 230 KV 265B	LINE	All	3/14/2022	5/26/2022
DOM-N	WOODBGRGE230 KV 2001A	LINE	All	11/15/2021 3/1/2022 5/2/2022	12/31/2021 4/18/2022 5/18/2022
DOM-N	WOODBGRGE230 KV 2001B	LINE	All	9/15/2021	1/14/2022
DOM-N	WOODBGRGE230 KV TX1	XFRM	All	11/15/2021	12/31/2021
DOM-S	CAROLINA230 KV 2141	LINE	All	3/1/2022	5/31/2022
DOM-S	SUNBURY4230 KV 247B	LINE	All	1/4/2021	3/17/2022
DOM-W	LEXINGTN230 KV 2084A	LINE	All	9/20/2021	10/15/2021
DOM-W	LOCUSTDP115 KV 153C	LINE	All	10/15/2021 12/6/2021 1/31/2022	11/14/2021 12/17/2021 3/4/2022

2021/2022 Annual ARR/FTR Outages					
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day
DOM-W	LOWMOOR 230 KV TX3	XFRM	All	9/20/2021	10/15/2021
DOM-W	LOWMOOR 230 KV TX4	XFRM	All	9/25/2019	1/25/2022
DOM-W	MTSTORM4500 KV 550A	LINE	All	3/1/2021 9/13/2021 3/1/2022	6/15/2021 12/17/2021 6/15/2022
DOM-W	MTSTORM4500 KV MTS-PRU	LINE	All	10/18/2021	11/19/2021
DOM-W	WEYERSCV115 KV 43B	LINE	All	10/18/2021 3/15/2022	2/28/2022 3/24/2022
DOM-W	WEYERSCV115 KV 43C	LINE	All	5/2/2021	11/2/2021
DOM-W	WEYERSCV115 KV TX1	XFRM	All	10/18/2021	11/2/2021
DPL	CHESWOLD138 KV CHE-FEL	LINE	All	3/1/2022	5/14/2022
DPL	ENEWMARK69 KV ENE-ENE	LINE	All	9/8/2021 11/15/2021 2/14/2022	10/8/2021 11/19/2021 5/20/2022
DPL	ENEWMARK69 KV ENE-JAC	LINE	All	9/8/2021 2/14/2022	10/8/2021 5/20/2022
DPL	FELTON 138 KV FEL-SHA	LINE	All	9/20/2021 11/8/2021 3/1/2022	10/8/2021 11/24/2021 4/8/2022
DPL	INDIANRI230 KV IND-PIN	LINE	All	11/8/2021 3/14/2022	12/17/2021 4/22/2022
DPL	KEENEY 230 KV KEE-STE9	LINE	All	10/25/2021	11/12/2021
DPL	PINEYGRO230 KV AT20	XFRM	All	11/8/2021 3/14/2022	12/17/2021 4/22/2022
DUQU	BOCGASES138 KV BOC-DRA	LINE	All	9/20/2021 10/4/2021	9/24/2021 1/24/2022
DUQU	BOCGASES138 KV BOC-LOG	LINE	All	9/20/2021 10/4/2021	9/24/2021 1/24/2022
DUQU	CARS DUQ345 KV T1	XFRM	All	9/20/2021 10/4/2021	9/23/2021 10/22/2021
DUQU	CHESWICK138 KV CHE-SPR	LINE	All	5/28/2020	12/31/2021
DUQU	DRAVOSBU138 KV DRA-USS	LINE	All	10/4/2021	1/10/2022
DUQU	DRAVOSBU138 KV DRA-WIL7	LINE	All	10/4/2021	1/24/2022
DUQU	PRTPERRY138 KV PER-DRA	LINE	All	10/22/2021	1/24/2022
DUQU	PRTPERRY138 KV PER-WIL	LINE	All	10/22/2021	1/24/2022
EKPC	FAWKES 138 KV FAW-WBER	LINE	All	9/6/2021	12/17/2021
EKPC	GRANTSLK69 KV GRA-GRIF	LINE	All	5/3/2021	11/5/2021
EKPC	JELLCRKJ69 KV JEL-MCRE	LINE	All	3/29/2021	12/31/2021
EKPC	PINEKNOT69 KV PIN-REVE	LINE	All	3/29/2021	12/31/2021
EKPC	ROWAN_CO138 KV ROW-SKAG	LINE	All	4/13/2021 3/14/2022	12/13/2021 5/9/2022
EKPC	SKAGGS 138 KV XF1810	XFRM	All	4/13/2021 3/14/2022	12/13/2021 5/9/2022
EKPC	W_BEREA 138 KV XF187	XFRM	All	9/6/2021	12/17/2021
FECL	02FABER 138 KV 02F-02F8	LINE	All	9/7/2021	11/8/2021
FECL	02FABER 138 KV 02F-02P2	LINE	All	9/7/2021	11/8/2021

2021/2022 Annual ARR/FTR Outages						
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day	
FECL	02GARFLD138 KV 02G-GAR2	LINE	All	6/17/2020	12/31/2021	
FECL	ASHTABUL345 KV ASH-ERI	LINE	All	5/31/2021 10/4/2021	6/3/2021 11/14/2021	
FECL	ASHTABUL345 KV TR-8	XFRM	All	5/31/2021 10/4/2021	6/3/2021 11/14/2021	
FECL	EASTLAKE138 KV EAS-02L1	LINE	All	9/7/2021	12/2/2021	
FECL	EASTLAKE138 KV EAS-04M1	LINE	All	9/7/2021	12/2/2021	
FECL	HARDING2345 KV 1	XFRM	All	10/4/2021	12/11/2021	
FECL	HARDING2345 KV 2	XFRM	All	10/4/2021	12/11/2021	
FECL	JENNING 138 KV JEN-CLA1	LINE	All	5/28/2020	12/31/2021	
FECL	JENNING 138 KV JEN-LTV7	LINE	All	1/24/2020	12/31/2025	
FECL	LLOYD 138 KV 2	XFRM	All	8/23/2019	12/31/2021	
FECL	PERRY_FE345 KV PER-ASH1	LINE	All	5/31/2021 10/4/2021	6/3/2021 11/14/2021	
FEOE	BLUEBELL138 KV BLU-02A1	LINE	All	1/12/2019	12/30/2021	
FEOE	CHAMBROE345 KV CHA-HAR2	LINE	All	10/4/2021	12/11/2021	
FEOE	LAKVEW 138 KV LAK-OTT1	LINE	All	9/13/2021	11/23/2021	
FEPA	CEDAROE 138 KV TR1	XFRM	All	9/7/2021 10/11/2021 1/4/2022	10/1/2021 11/12/2021 2/18/2022	
FETE	WFREMONT138 KV WFR-WOO1	LINE	All	3/21/2022	4/29/2022	
ILL_EQ	LANESVL 345 KV 2101 1	LINE	All	4/12/2022	5/12/2022	
JC-N	EFLEMING230 KV BK 3TR	XFRM	All	9/15/2021	6/1/2022	
JC-N	EFLEMING230 KV EFL-PLV	LINE	All	9/15/2021	6/1/2022	
JC-N	ELASTIMO230 KV ELA-POH	LINE	All	9/13/2021 12/13/2021 3/14/2022	10/29/2021 12/17/2021 4/22/2022	
JC-N	KITTATIN230 KV KIT-POH	LINE	All	10/25/2021 3/14/2022	10/29/2021 4/22/2022	
JC-N	PEQUESTR115 KV PEQ-POR	LINE	All	9/17/2021 9/27/2021	9/17/2021 12/17/2021	
JC-N	POHATCON230 KV TR1	XFRM	All	10/25/2021 3/14/2022	10/29/2021 4/22/2022	
JC-N	READINGT230 KV BK 2TR	XFRM	All	9/15/2021	6/1/2022	
JC-N	READINGT230 KV REA-ROS	LINE	All	9/15/2021	6/1/2022	
JC-N	TRAYNOR 230 KV TRA-WHIY	LINE	All	11/18/2021	12/17/2021	
JC-S	LAKWOOD230 KV LAK-LEI	LINE	All	9/16/2021 11/1/2021	10/30/2021 12/17/2021	
JC-S	NEWPROSP230 KV NEW-SMI	LINE	All	11/4/2021	12/3/2021	
JC-S	SMITHBUR230 KV BK 2TR	XFRM	All	11/4/2021	12/3/2021	
ME	ALBURTME230 KV ALB-LYO	LINE	All	9/15/2021	12/17/2021	
ME	HUNTERST115 KV HUN-LIN	LINE	All	9/20/2021 2/28/2022	12/18/2021 5/13/2022	
ME	HUNTERST500 KV HUN-VIN	LINE	All	11/1/2021 4/4/2022	12/4/2021 5/13/2022	

2021/2022 Annual ARR/FTR Outages					
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day
ME	PORTLAND230 KV 3 BANK	XFRM	All	9/13/2021 10/21/2021	10/19/2021 10/26/2021
ME	YORKANA 230 KV BANK 1	XFRM	All	10/4/2021	10/29/2021
PE	BUCKINGH230 KV BUC-LIN	LINE	All	9/8/2021	10/5/2021
PE	BUCKINGH230 KV BUCK-ROC	LINE	All	6/8/2021 9/8/2021	6/8/2021 10/5/2021
PE	CHICHEST230 KV CHI-EDD	LINE	All	10/19/2021	11/1/2021
PE	GRAYSFER230 KV GRA-PAS	LINE	All	6/10/2021 9/13/2021	6/11/2021 10/1/2021
PE	JARRET 230 KV JAR-WHI	LINE	All	11/29/2021 12/17/2021 2/26/2022 4/25/2022 5/11/2022	12/1/2021 12/18/2021 3/7/2022 4/27/2022 5/11/2022
PE	PASSYUNK230 KV PAS 9TR	XFRM	All	6/10/2021 9/13/2021	6/11/2021 10/1/2021
PE	PASSYUNK69 KV PAS-SWA	LINE	All	6/10/2021 9/13/2021	6/11/2021 10/1/2021
PE	PLYMOUTH230 KV PLY-WHI4	LINE	All	9/21/2021 10/4/2021 11/29/2021 12/17/2021 2/26/2022	9/21/2021 10/7/2021 12/1/2021 12/18/2021 3/7/2022
PE	SWARK 69 KV SWK 3TR	XFRM	All	6/10/2021 9/13/2021	6/11/2021 10/1/2021
PE	WHITEMAR230 KV WHI-WHI	LINE	All	6/26/2021 7/24/2021 11/29/2021 12/17/2021 2/26/2022	6/27/2021 7/25/2021 12/1/2021 12/18/2021 3/7/2022
PE	WHITPAIN500 KV WHT 3TR	XFRM	All	11/19/2021 11/29/2021 12/17/2021 2/26/2022	11/19/2021 12/1/2021 12/18/2021 3/7/2022
PEP	BELLSMIL230 KV 121-12T	XFRM	All	10/1/2021	3/4/2022
PEP	BELLSMIL230 KV 121-3T	XFRM	All	10/1/2021	3/4/2022
PEP	BELLSMIL230 KV BEL-QUI0	LINE	All	10/1/2021	3/4/2022
PEP	BOWIE 230 KV 162-2T	XFRM	All	9/9/2021	2/4/2022
PEP	BOWIE 230 KV BOW-BUR3	LINE	All	9/9/2021	2/4/2022
PEP	BOWIE 230 KV BOW-JER1	LINE	All	9/9/2021	2/4/2022
PEP	BOWIE 230 KV BOW-OAK1	LINE	All	9/9/2021	2/4/2022
PEP	CHALKPT 230 KV CHA-OAKG	LINE	All	9/9/2021	2/4/2022
PEP	DICKERSO230 KV DIC-QUI5	LINE	All	10/1/2021	3/4/2022
PEP	LANHAM 115 KV LAN-TUX4	LINE	All	8/10/2021	10/28/2021
PEP	MTZION 230 KV MTZ-QUI2	LINE	All	9/11/2021	6/4/2022
PEP	MTZION 230 KV MTZ-QUI4	LINE	All	9/11/2021	6/4/2022

2021/2022 Annual ARR/FTR Outages						
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day	
PEP	MTZION 230 KV MTZ-QUI5	LINE	All	10/1/2021	3/4/2022	
PEP	QUINCEOR230 KV 118-3T	XFRM	All	10/1/2021	3/4/2022	
PL-N	FISHBACH69 KV FIS-FRA3	LINE	All	3/22/2021 6/28/2021 7/19/2021 8/16/2021 11/29/2021	6/25/2021 7/14/2021 8/13/2021 11/19/2021 12/15/2021	
PL-N	FRACKVIL230 KV 2	XFRM	All	8/3/2021	10/27/2021	
PL-N	HAUTO 69 KV HAU-SIE1	LINE	All	6/7/2021	9/13/2021	
PL-N	JENKINS 230 KV 1	XFRM	All	6/2/2021	7/14/2021	
PL-N	JENKINS 230 KV JEN-STA	LINE	All	6/2/2021	7/14/2021	
PL-N	STANTON 230 KV 3	XFRM	All	6/2/2021	7/14/2021	
PL-N	SUSQUEHA500 KV SUS-WES	LINE	All	6/4/2021	6/18/2021	
PL-S	BRUNNERI230 KV BRU-YOR	LINE	All	10/4/2021	10/29/2021	
PL-S	EPALMERT69 KV EPA-HAU2	LINE	All	6/7/2021	9/13/2021	
PL-S	FACEROCK115 KV 1	XFRM	All	9/8/2021	12/22/2021	
PL-S	FACEROCK115 KV 2	XFRM	All	9/8/2021	12/22/2021	
PL-S	FACEROCK115 KV FAC-FIV1	LINE	All	9/8/2021	12/22/2021	
PL-S	FACEROCK115 KV FAC-FIV2	LINE	All	9/8/2021	12/22/2021	
PL-S	HUMMELST230 KV 1	XFRM	All	2/25/2021 4/11/2022	3/1/2022 4/14/2022	
PL-S	HUMMELST230 KV 3	XFRM	All	6/7/2021 9/16/2021	7/30/2021 10/15/2021	
PL-S	JUNIATA 500 KV 2	XFRM	All	11/1/2021	12/17/2021	
PL-S	MANOR 230 KV 3	XFRM	All	10/22/2021 3/1/2022	1/11/2022 4/25/2022	
PL-S	MANOR 230 KV MAN-SAF1	LINE	All	10/11/2021	11/13/2021	
PL-S	OTTCRKPL230 KV OTT-SAF	LINE	All	10/11/2021	11/13/2021	
PL-S	QUARRY 230 KV QUA-STE2	LINE	All	9/15/2021	10/12/2021	
PL-S	SAFEHARB230 KV 2301	XFRM	All	10/11/2021	11/13/2021	
PL-S	SAFEHARB230 KV 2302	XFRM	All	10/11/2021	11/13/2021	
PL-S	WHEMPFIE230 KV 1	XFRM	All	8/30/2021	11/18/2021	
PL-S	WHEMPFIE230 KV 3	XFRM	All	7/19/2021 10/11/2021	8/26/2021 11/18/2021	
PN	CANYON 230 KV CAN-NME	LINE	All	11/1/2021	12/17/2021	
PN	ERIEE 230 KV ERI-SRI	LINE	All	6/1/2021	6/15/2021	
PN	ERIEW 345 KV NO1 TX	XFRM	All	9/13/2021	12/31/2021	
PN	ETOWANDA115 KV 5TX	XFRM	All	3/2/2020	10/28/2021	
PN	FOREST 115 KV FOR-RID	LINE	All	9/13/2021 3/1/2022	12/23/2021 6/14/2022	
PN	FOREST 230 KV 1 TX	XFRM	All	9/13/2021 3/1/2022	12/23/2021 6/14/2022	
PN	FOREST 230 KV FOR-SQU	LINE	All	9/13/2021 12/17/2021 3/1/2022	9/20/2021 12/23/2021 3/18/2022	

2021/2022 Annual ARR/FTR Outages					
Zone	Facility Name	Type	Modeled Period	Scheduled Start Day	Scheduled End Day
PN	GLADE 230 KV FOR-GLA1	LINE	All	9/13/2021 12/17/2021 3/1/2022	9/20/2021 12/23/2021 3/18/2022
PN	GROVER 230 KV 1TX	XFRM	All	3/14/2022 5/16/2022	4/1/2022 6/10/2022
PN	GROVER 230 KV GRO-MARS	LINE	All	3/14/2022 5/16/2022	4/1/2022 6/10/2022
PN	GROVER 230 KV GRO-SCO	LINE	All	3/14/2022 5/16/2022	4/1/2022 6/10/2022
PN	HOMERCIT23 KV N.AUTO-T	XFRM	All	11/10/2021 3/1/2022	12/3/2021 5/27/2022
PN	HOMERCIT230 KV N.AUTO-S	XFRM	All	8/23/2021 11/10/2021 3/1/2022	9/10/2021 12/3/2021 5/27/2022
PN	HOMERCIT345 KV HOM-MAI	LINE	All	9/18/2021 3/1/2022	11/5/2021 5/27/2022
PN	HOMERCIT345 KV N.AUTO-P	XFRM	All	11/10/2021 3/1/2022	12/3/2021 5/27/2022
PN	NMESHOPP230 KV 4 TX	XFRM	All	11/1/2021	12/17/2021
PN	NMESHOPP230 KV NME-OXB	LINE	All	9/13/2021 11/1/2021	10/29/2021 12/17/2021
PS-N	ATHENIA 230 KV ATH-COO	LINE	All	9/13/2021 1/4/2022	9/16/2021 1/14/2022
PS-N	BAYONNE 345 KV BYO-MAR1	LINE	All	9/20/2021	11/3/2021
PS-N	BERGEN 230 KV BER-LEO	LINE	All	9/20/2021	10/10/2021
PS-N	FOUNDRY 138 KV FOU-NEW	LINE	All	3/2/2022	5/17/2022
PS-N	HUDSON 345 KV 345-1	XFRM	All	1/15/2018	12/31/2021
PS-S	HOPECREE500 KV HOP-RED	LINE	All	9/28/2021 11/16/2021	10/31/2021 12/17/2021
PS-S	KUSERRD 230 KV KUS-LAW	LINE	All	9/20/2021	11/3/2021
SENY	FARRAGUT345 KV FAR-HUDB	LINE	All	1/15/2018	12/31/2021
SENY	FARRAGUT345 KV FAR-MAR	LINE	All	1/15/2018	12/31/2021
SENY	FARRAGUT345 KV FAR-MAR2	LINE	All	1/15/2018	12/31/2021