

ATTACHMENT M-2 (FirstEnergy Zones)
FirstEnergy Procedure for Determining a Load Serving Entity's
Peak Load Contribution (PLC) and Network Service Peak Load (NSPL)

PURPOSE

The purpose of this Attachment M-2 is to establish the procedures and methodologies under which FirstEnergy will determine the PLC and NSPL, as defined/specified in the PJM Open Access Transmission Tariff, the PJM Operating Agreement, Reliability Assurance Agreement or other relevant PJM documents (the “PJM Documents”) each PJM Planning Year for each retail and wholesale Load Serving Entity (“LSE”) serving load in the following FirstEnergy Electric Distribution Companies (“EDCs”) Zones (the “FirstEnergy Zones”): Ohio Edison Company, The Toledo Edison Company, The Cleveland Electric Illuminating Company (together, “ATSI Ohio”), FirstEnergy Pennsylvania Electric Company (“FE PA”) operating in the separate ATSI, Penelec, MetEd, and Allegheny Power PJM transmission zones, Jersey Central Power & Light Company (“JCP&L”), Monongahela Power Company (“Mon Power”) and The Potomac Edison Company (“Potomac Edison MD” and “Potomac Edison WV”). Attachment M-2 is not intended to supersede or replace any contractual arrangement(s) between FirstEnergy (or its affiliated FirstEnergy EDC) and the applicable LSE that otherwise governs the calculations. Such contractual arrangement(s) shall prevail unless silent on a particular issue or calculation.

Questions concerning the methodologies described in this Attachment M-2 may be submitted by visiting the Supplier Support section of the FirstEnergy corporate website located here: <https://www.firstenergycorp.com/supplierservices>.

SECTION I: TERMS

Transmission Zone – The areas within PJM as set forth in Attachment J of the PJM Open Access Transmission Tariff for American Transmission Systems, Incorporated, Allegheny Power, Jersey Central Power & Light Company, Metropolitan Edison Company and Pennsylvania Electric Company.

Losses - The following loss factors shall apply for each FirstEnergy Zone. Loss factors will be applied according to location (FirstEnergy Zone) and service voltage of each meter point. For wholesale LSEs, all of the loss factors specified herein shall apply, unless otherwise established by contract and filed with FERC. For retail LSEs, the Transmission Load loss factors specified herein shall apply, however for lower service voltages, the loss factors specified in state-approved retail tariffs shall apply.

Service Voltage	ATSI Ohio	FE PA (Penn Power, ATSI Zone)	FE PA (MetEd Zone)	FE PA (Penelec Zone)	JCP&L
Transmission Load	1.01486	1.01486	1.02100	1.04070	1.03900
Subtransmission Source	1.02786	1.02786			

Subtransmission Load	1.02886	1.02886			
Primary Load	1.05786	1.05786	1.03740	1.06060	1.06100
Secondary Load	1.09486	1.08960	1.07180	1.09450	1.11800

Service Voltage	FE PA (West Penn Power, Allegheny Power Zone)	Potomac Edison MD	Potomac Edison WV	Mon Power
Transmission Load	1.02184	1.02245	1.02245	1.02233
Subtransmission Source			1.02646	
Subtransmission w/Tran Charge	1.04282			
Subtransmission Load	1.03578	1.03742	1.03807	1.03390
Primary Source			1.03070	1.03378
Primary Load	1.06383	1.07542	1.07691	1.06071
Secondary Load	1.09434	1.09513	1.09705	1.09033

Transmission Load - For Mon Power, Potomac Edison MD, Potomac Edison WV and FE PA (West Penn Power, Allegheny Power Zone), 138 kV and above. For FE PA (Penelec and MetEd Zones) and JCP&L, 34.5 kV and above. For ATSI Ohio and FE PA (Penn Power, ATSI Zone), 69 kV and above.

Subtransmission Source - For Potomac Edison WV, For ATSI Ohio and FE PA (Penn Power, ATSI Zone), service at source of subtransmission bus.

Subtransmission w/Tran Charge - For FE PA (West Penn Power, Allegheny Power Zone), service on low side of subtransmission to primary transformer.

Subtransmission Load - For Mon Power, Potomac Edison MD, Potomac Edison WV and FE PA (West Penn Power, Allegheny Power Zone), 23 kV to 69 kV. For ATSI Ohio and Penn Power, 23 kV to 34.5 kV.

Primary Source - For Mon Power and Potomac Edison WV, service at source of primary bus.

Primary Load - For Mon Power, Potomac Edison MD, Potomac Edison WV, FE PA (West Penn Power, Allegheny Power Zone; and Penn Power, ATSI Zone) and ATSI Ohio, 1 kV to 15 kV. For FE PA (Penelec and MetEd Zones) and JCP&L, 1 kV to 34.5 KV.

Secondary Load - For all FirstEnergy EDC Zones, below 1 kV.

SECTION II: WHOLESALE

Under the PJM Documents, the FirstEnergy EDCs are required to determine the PLC and NSPL for each wholesale LSE operating in their respective FirstEnergy Zones.

This Attachment M-2 supplements and clarifies the procedures and methodologies under which FirstEnergy will determine the PLC and NSPL for all wholesale LSEs with load located in one or more FirstEnergy Zone. Unless specified otherwise, this Attachment M-2 does not amend or replace any existing contracts or agreements between FirstEnergy and any wholesale LSE.

The PLC and NSPL values for each FirstEnergy Zone in which the wholesale LSE serves load will be calculated separately and will be based on the hourly reading obtained from billing quality metering and related equipment (“Meters”) owned by FirstEnergy or the wholesale LSE located at or near the interconnection point between the FirstEnergy distribution or transmission system, and the wholesale LSE system. Furthermore, all calculations in this Attachment M-2 will be done consistent with the requirements of the PJM Documents.

PLC Calculation

The calculation of PLC for each wholesale LSE, with load located in any of the FirstEnergy Zones, is as follows:

1. Determine the wholesale LSE’s load contribution to the total FirstEnergy Zone load at the time of the high 5 peak hours for the PJM region (“High 5 Hours”) as determined by PJM. This load is grossed up for contractual or otherwise mutually agreed upon losses, as specified herein or as otherwise filed with FERC.

If a PJM Demand Response Event (“DR Event”) occurred within the applicable FirstEnergy Zone in which the wholesale LSE serves load during one or more of the High 5 Hours, then add back the PJM-determined load reduction to each of the corresponding wholesale LSE’s loads for those DR Events affecting the High 5 Hours.

The result is the wholesale LSE’s unrestricted PJM High 5 loads.

2. Average the wholesale LSE’s 5 unrestricted PJM High 5 loads.
3. Multiply the wholesale LSE’s average unrestricted PJM High 5 load by the ratio of (a) the appropriate FirstEnergy Zone’s weather-normalized peak to (b) the average of the FirstEnergy unrestricted loads during the PJM High 5 Hours.

Note: PJM determines the weather-normalized peak for each Transmission Zone. Where a Transmission Zone comprises more than one FirstEnergy Zone, each FirstEnergy Zone’s weather-normalized peak is determined on a load ratio share basis (including PJM add-backs, if any) using the High 5 Hours. This ensures that the weather normalization ratio is the same value for each FirstEnergy Zone in those cases where a Transmission Zone comprises more than one FirstEnergy Zone.

4. This determines the wholesale LSE’s PLC for that FirstEnergy Zone, which is posted to the wholesale LSE’s PJM RPM account.

5. Numeric Example:

FirstEnergy Zone load during PJM High 5 Hour 1: 1,000 MW
FirstEnergy Zone load during PJM High 5 Hour 2: 1,100 MW
FirstEnergy Zone load during PJM High 5 Hour 3: 850 MW
FirstEnergy Zone load during PJM High 5 Hour 4: 1,250 MW
FirstEnergy Zone load during PJM High 5 Hour 5: 1,175 MW

Step 1: Determine/compute wholesale LSE's load during the High 5 Hours from Meters (grossed up for contractual or otherwise mutually agreed upon losses, as specified herein or as otherwise filed with FERC):

Wholesale LSE's load during PJM High 5 Hour 1: 85 MW
Wholesale LSE's load during PJM High 5 Hour 2: 86 MW
Wholesale LSE's load during PJM High 5 Hour 3: 70 MW
Wholesale LSE's load during PJM High 5 Hour 4: 98 MW
Wholesale LSE's load during PJM High 5 Hour 5: 90 MW

Step 2: Perform add-backs for High 5 DR Events, if any.

Wholesale LSE's PJM-determined add-back during PJM High 5 Hour 4: 5 MW
Wholesale LSE's unrestricted load during PJM High 5 Hour 4: $98 + 5 = 103$ MW

Step 3: Calculate wholesale LSE's average unrestricted load

$$(85 + 86 + 70 + 103 + 90) / 5 = 86.8 \text{ MW}$$

Step 4: Determine FirstEnergy Zone weather normalization ratio

Note: Any FirstEnergy or other LSE add-backs would also be included in determining the unrestricted FirstEnergy Zone loads.

Unrestricted FirstEnergy Zone load during PJM High 5 Hour 1: 1,000 MW
Unrestricted FirstEnergy Zone load during PJM High 5 Hour 2: 1,100 MW
Unrestricted FirstEnergy Zone load during PJM High 5 Hour 3: 850 MW
Unrestricted FirstEnergy Zone load during PJM High 5 Hour 4: 1,255 MW
Unrestricted FirstEnergy Zone load during PJM High 5 Hour 5: 1,175 MW

FirstEnergy Zone weather-normalized peak load: 950 MW

$$950 / ((1000 + 1100 + 850 + 1255 + 1175) / 5) = 0.883$$

Step 5: Determine PLC for wholesale LSE for that FirstEnergy Zone:

$$0.883 * 86.8 = 76.6 \text{ MW}$$

NSPL Calculation

The NSPL calculation for a wholesale LSE is simply the wholesale LSE's metered load at the time of the Transmission Zone peak as determined by PJM and as grossed up for contractual or otherwise mutually agreed upon losses, as specified herein or as otherwise filed with FERC.

Numeric Example:

Transmission Zone peak occurred on August 1, 201X, during Hour Ending 1700.

Wholesale LSE's load on August 1, 201X, during Hour Ending 1700 (including contractual or otherwise mutually agreed upon losses, as specified herein or as otherwise filed with FERC): 90 MW

Wholesale LSE's NSPL = 90 MW

Note: Unlike the calculation of PLC, add-backs are not considered in determining the wholesale LSE's NSPL.

SECTION III: RETAIL

The PLC and NSPL for an LSE providing service to retail customers receiving distribution service from a FirstEnergy EDC shall be determined in accordance with the following:

1. On a customer-by-customer basis, PLCs will be determined based on the customer load during the High 5 Hours.
 - a. Where interval meters are utilized for retail customer billing, load values for the High 5 Hours will be determined using customer-specific interval meter data.
 - b. Where interval meters are not utilized for retail customer billing, load values for the High 5 Hours will be determined from profiled data.
 - c. All data will be grossed up for applicable distribution and transmission losses.
 - d. If a DR Event occurred in the FirstEnergy Zone in which the retail LSE serves load during one or more of the High 5 Hours, then the PJM-determined load reduction for each customer will be added back to the customer's load value for the corresponding hour.
 - e. PLCs will be scaled by the Daily Scaling Factor ("DSF") before submittal to PJM.
2. On a customer-by-customer basis, NSPLs will be determined by:

- a. selecting the hours in which the 5 peak loads occurred during the season in which the respective Transmission Zone peak, as reported by PJM, occurred (i.e., Summer season from June 1 to September 30, or Winter season from December 1 to March 31);
- b. determining the average load values of each retail load customer during these 5 peak hours;
- c. grossing up all data for transmission and, as applicable, distribution losses; and
- d. scaling that average load value to the Transmission Zone peak as reported by PJM.

In lieu of a PLC DSF, a separate and distinct NSPL daily scaling factor is determined for each Transmission Zone and applied to each NSPL to ensure that the sum of all NSPL values reported to PJM matches the respective Transmission Zone target. For NSPL, there is no add-back for DR Events.

FirstEnergy does not determine PLCs and NSPLs for the retail consumers of wholesale LSEs like municipal electric utilities and electric cooperatives.

Additional implementation details related to the determination of the PLC and NSPL for each retail customer will be provided in the manual titled "Supplier Capacity Manual" under the "Supplier Registration" tab of the Supplier Support section of the FirstEnergy corporate website located here: <https://www.firstenergycorp.com/supplierservices>. The Manual may reflect differences based on the state utility commission requirements applicable to each FirstEnergy Zone, to the extent such requirements are not inconsistent with the requirements stated in this Attachment M-2.