August 3, 2012

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Room 1A
Washington, D.C. 20426

      Re: FirstEnergy Service Company
          Docket No. ER12-________
          Revised Attachments M-1 and M-2 to PJM OATT

Dear Secretary Bose:

      Pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d, and Part 35
of the regulations of the Federal Energy Regulatory Commission ("Commission"), 18
C.F.R. Part 35, FirstEnergy Service Company ("FirstEnergy"), on behalf of its affiliated
Electric Distribution Companies, submits for filing revised Attachments M-1 and M-2
to the PJM Open Access Transmission Tariff ("PJM Tariff").

      FirstEnergy requests that the Commission accept the revised Attachments M-1
and M-2 without modification, condition or suspension, with an effective date of June 1,
2012.

I. Description of Filing

      Attachment M-1 (Procedure for Determining a Load Serving Entity’s Hourly
Energy Obligations) concerns both wholesale and retail Load Serving Entities ("LSEs")
operating in the territories of the ten FirstEnergy Electric Distribution Companies
("EDCs") in PJM. The FirstEnergy EDCs are: Ohio Edison Company, The Toledo

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1 Pursuant to Order No. 714, this filing is being submitted by PJM Interconnection, L.L.C.
("PJM") on behalf of FirstEnergy as part of an XML filing package that conforms with the Commission's
regulations. PJM has agreed to make all filings on behalf of the PJM Transmission Owners in order to
retain administrative control over the PJM Tariff. Thus, FirstEnergy has requested PJM submit these
revisions to Attachments M-1 and M-2 to the PJM Tariff in the eTariff system as part of PJM's electronic
Intra PJM Tariff.
Edison Company, The Cleveland Electric Illuminating Company, Pennsylvania Power Company, Metropolitan Edison Company, Pennsylvania Electric Company, Jersey Central Power and Light Company, Monongahela Power Company, West Penn Power Company and The Potomac Edison Company. Attachment M-1 explains the procedure used to determine and submit to PJM the LSEs’ hourly energy obligations. In particular, FirstEnergy performs the calculation of hourly energy obligations and uploads this data (via PJM’s eSchedule eSuite application) on behalf of all retail and wholesale LSEs operating in each FirstEnergy EDC with no exception.

Attachment M-1 has been updated, reorganized and streamlined. Namely, additional FirstEnergy EDCs have been added reflecting FirstEnergy’s mergers with GPU, Inc. and Allegheny Energy. Further, it contains a new formula, which FirstEnergy uses to determine wholesale LSEs’ hourly energy obligation. Attachment M-1 is now broken into three main sections. The first section provides terms specific to Attachment M-1 that are not found elsewhere in the PJM OATT. The second section describes hourly energy obligation processes for wholesale LSEs, such as municipalities or rural electric cooperatives. The final section describes hourly energy obligation processes for retail LSEs, such as retail generation service providers serving retail customers or retail suppliers providing provider of last resort services where a state retail supplier tariff or other document governing State/PJM interaction is in effect. It is no longer necessary for Attachment M-1 to address topics such as Telemetered and Non-Telemetered Data, Usage Factors, Monthly Adjustments and “Third-Tier” Reconciliation. Consequently, these sections have been removed.


Like Attachment M-1, Attachment M-2 has been updated, reorganized and streamlined. Additional FirstEnergy regulated affiliates have been added reflecting FirstEnergy’s mergers with GPU, Inc. and Allegheny Energy. Attachment M-2 is now broken into three main sections. The first section provides terms specific to Attachment M-2 that are not found elsewhere in the PJM OATT. The second section describes the methods to be used in calculating the PLC and NSPL values for each wholesale LSE taking transmission service under the PJM OATT in the PJM transmission pricing zones of the FirstEnergy regulated affiliates. The third section concerns PLCs and NSPLs for retail LSEs, and provides that these will be determined in accordance with manuals posted on the FirstEnergy Corporation’s website.

II. Request for Waiver and Effective Date
FirstEnergy requests a waiver of the Commission’s 60-day prior notice requirement to allow a retroactive effective date of June 1, 2012 for the revised attachments. Good cause exists for granting the waiver. First, this filing will not result in a rate increase. As noted above, Attachments M-1 and M-2 have simply been updated, reorganized and streamlined. This filing will not result in any change in rates. Second, a June 1, 2012 effective date will coincide with the “rate year” used for FirstEnergy’s transmission formula rate in PJM. The transmission formula rate template for FirstEnergy’s transmission affiliate, ATSI, uses prior year’s accounting and load data to develop transmission revenue requirements and rates each year for a rate year starting June 1 and ending May 31. See PJM OATT, Attachment H-21. Finally, FirstEnergy and the customers affected by the changes to Attachments M-1 and M-2 have negotiated and reached agreement on the changes to these attachments, including the June 1, 2012 effective date. The Commission has expressed a willingness to grant retroactive effective dates where, as in this case, there is customer consent.\(^2\) Granting waiver will permit the parties-in-interest to receive the benefit of their bargain, and permit the attachments to go into effect as the parties intended.

III. Documents Enclosed

FirstEnergy encloses the following:

1. Transmittal Letter

2. Marked versions of Attachments M-1 and M-2 showing changes (Attachment A)

3. Clean versions of Revised Attachments M-1 and M-2 (Attachment B)

IV. Correspondence and Communications

Correspondence and communications with respect to this filing should be sent to, and FirstEnergy requests the Secretary to include on the official service list, the following:\(^3\)

For FirstEnergy

\(^2\) Public Service Company of New Hampshire, 56 FERC ¶ 61,105, at 61,405 n. 37 (1991) (citing Towns of Concord and Wellesley, Massachusetts v. FERC, 844 F.2d 891 (1st Cir. 1988); City of Piqua v. FERC, 610 F.2d 950 (D.C. Cir. 1979)) (“We are reluctant to find good cause to waive the notice requirement to implement a retroactive effective date set prior to the date of the rate filing without any indication of customer consent.”).

\(^3\) FirstEnergy requests waiver of 18 CFR § 385.203(b)(3) to the extent necessary to include more than two names on the official service list.
V. Additional 35.13 Filing Requirements

Information Required Under 18 CFR § 35.13 and Requests for Waiver

As discussed above, this filing will simply update, reorganize and streamline Attachments M-1 and M-2, which concern the determination and reporting of hourly energy obligations and supplier peak load shares for market participants in the PJM pricing zones of certain FirstEnergy affiliates. It will not result in a rate increase. As a result, the filing requirements of 18 CFR §§ 35.13(b) and 35.13(c) apply. See 18 CFR § 35.13(a)(2)(iii).

18 CFR § 35.13(b) Requirements

1. A list of documents submitted with the filing: See Section III.
2. The date on which the utility proposes to make the rate change effective: June 1, 2012.
3. The names and addresses of persons to whom a copy of the rate change has been posted: See Section VI.
4. A brief description of the rate change: See Section I.
5. A statement of the reasons for the rate change: See Section I.

6. A showing that all requisite agreement to the rate change, or to the filing of the rate change, including any agreement required by contract, has in fact been obtained: No agreement to the revised attachments, or to the filing of the revised attachments, is required.

7. A statement showing any expenses or costs that have been alleged or judged in any administrative or judicial proceeding to be illegal, duplicative, or unnecessary costs that are demonstrably the product of discriminatory employment practices: No such expenses or costs exist.

18 CFR § 35.13(c) Requirements

1. A table or statement comparing sales and services and revenues: FirstEnergy requests waiver of this requirement because the filing will not result in a change in rates.

2. A comparison of the rate change and the utility's other rates for similar wholesale for resale and transmission services: FirstEnergy requests waiver of this requirement because the filing will not result in a change in rates.

3. If any specifically assignable facilities have been or will be installed or modified in order to supply service under the rate change, an appropriate map or sketch and single line diagram showing the additions or changes to be made: Not applicable. No assignable facilities have been or will be installed or modified in order to supply service under the rate change.

Finally, the information submitted with this filing substantially complies with the requirements of Part 35 of the Commission's rules and regulations applicable to filings of this type. FirstEnergy requests a waiver of any applicable requirement of Part 35 for which a waiver is not specifically requested, if necessary, in order to permit this filing to become effective as proposed. Good cause exists for waiver because this filing will update Attachments M-1 and M-2, and will not result in a rate change.

VI. Service

PJM has served a copy of this filing on all PJM Members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission’s regulations, PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: http://www.pjm.com/documents/ferc-manuals/ferc-filings.aspx with a specific link to the newly-filed document, and will send an e-mail on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region alerting them that this filing has been made by PJM and is available by following such link. If

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4 See 18C.F.R §§ 35.2(e) and 385.2010(f)(3).

5 PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.
the document is not immediately available by using the referenced link, the document will be available through the referenced link within 24 hours of the filing. Also, a copy of this filing will be available on the FERC’s eLibrary website located at the following link: http://www.ferc.gov/docs-filing/elibrary.asp in accordance with the Commission’s regulations and Order No. 714.

Thank you for your assistance in this matter. Please contact the undersigned with any questions.

Respectfully submitted,

/s/ Richard P. Sparling
Kenneth G. Jaffe
Richard P. Sparling
Alston & Bird, LLP
950 F Street, NW
Washington, DC 20004

Attorneys for FirstEnergy Service Company
Attachment A

Sections M-1 and M-2 of the PJM Open Access Transmission Tariff

Marked Version / Redline
Table of Contents

Introduction

Determination of the Total Hourly Energy Obligation — For Initial Interchange Billing

  Telemetered Data
  Non-Telemetered Data
  Usage Factor
  Responsibilities for Coordination
  Supplier’s Responsibilities
  Company’s Responsibilities

Energy Reconciliation, Settlement and Bill Adjustments — Monthly Adjustments —

“Third-Tier” Reconciliation

Exhibit A — Loss Factors

Exhibit B — [Reserved.]

Exhibit C — Sample Calculation
**Introduction**

This document is intended to provide a comprehensive explanation of the methodology and mechanics Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), and Jersey Central Power & Light Company (“JCP&L”) d/b/a FirstEnergy (“Company”) and Third Party Suppliers (New Jersey) and Electric Generation Suppliers (Pennsylvania) (“Suppliers”) will apply to calculate and coordinate the information transfer needed to implement retail open access associated with Suppliers’ energy obligations at PJM.

As further explained below, the Company will report to the Suppliers and to PJM on a day-after-the-fact basis the Supplier’s Total Hourly Energy Obligation (THEO). This daily report will contain hourly telemetered usage for customers with Advanced Meters and estimated hourly usage for customers without such meters. The hourly usage estimate for non-telemetered customers will be the product of a Usage Factor (UF) and the hourly typical class usage determined from daily Load Profile data provided by sampling meters on the day of usage. The UF will be calculated with billed usage data available from the immediately prior billing cycle and the aggregate Load Profile for the corresponding period. This Usage Factor will be recalculated at the closing of each billing cycle.

PJM will utilize the information contained in the THEO report in determining the hourly energy interchange accounting and reconciliation under the terms of the PJM Operating Agreement, the PJM Open Access Transmission Tariff and the Third Party Supplier Agreement (New Jersey) or Electric Generation Supplier Coordination Tariff (Pennsylvania). The difference between the Supplier’s THEO estimated by the Company and the energy actually delivered by the Supplier will be the basis for PJM’s initial energy interchange billing. This initial energy interchange billing will be further adjusted based upon the hourly differences that may exist between the estimated THEO reported to PJM and the customer’s actual monthly usage allocated to each of the hours of the month to be adjusted. The estimation of the customer’s usage and the calculation of the hourly adjustments are the subject of this manual.

Please see attached Exhibit A for a list of Loss Factors, and Exhibit C for a simplified sample calculation of Energy Obligation for monthly non-telemetered customers. A discussion of the Company’s load profiling methodology is posted on the Company’s Supplier website.

**DETERMINATION OF THE TOTAL HOURLY ENERGY OBLIGATION – FOR INITIAL INTERCHANGE BILLING**

The Supplier’s (THEO) will be reported to PJM as 24 hourly numbers. Each hourly number will be the sum of the totals in each customer class, segregated by the Company Zone (Met-Ed, Penelec, or JCP&L) in which the Supplier served load in that hour. The Total Hourly Energy Obligation will comprise two components:

\[
\text{THEO} = \text{TM} + \text{NTM} + \text{NM};
\]

Where

\[
\text{TM} = \text{Sum}[(\text{Telemetered})_p \times (\text{Loss Factor})_p];\text{ and}
\]

\[
\text{NTM} = \text{Sum}[(\text{CLP})_p \times (\text{Loss Factor})_p]
\]
Telemetered Data

The telemetered data will be the sum of the products of the hourly usage recorded in each advanced meter in a customer class and that class’s loss factor. If, for any reason, an advance meter fails to report hourly data in a given time period, the missing data will be estimated using that customer’s historic usage for a similar time period.

Non-Telemetered Data

The non-telemetered data will be the sum of the product of the customer’s load-profile usage in a customer class for that hour and that class’s loss factor.

The hourly customer load-profile usage will be calculated as follows:

\[ CLP = (UF) \times (Class \text{-Profile Hourly Usage}) \]

Where \( k = \text{customer} \)

Usage Factor

The UF used to estimate a customer’s usage for a given hour will be determined as the ratio of the customer’s electric use for the immediately prior billing period to the aggregate hourly Load Profile for the same period. The estimated customer hourly usage will be this UF multiplied by the typical class use for that hour as reported by the Load Profile.

If a new customer has no historic or billed usage, an estimated hourly UF of one (1) will be imputed to that customer. All others will have a UF equal to the ratio of the customer’s prior total billed consumption to the total typical usage in that class. This class typical usage will be derived from hourly data collected from the Company’s Load Profile meters as explained in Exhibit B. During the first few months of transition to retail choice, the Company may use UF based on the customer’s historic usage and static load research data.

The resulting hourly numbers reported to PJM will be in whole MWh, or any other increment established by PJM. Currently, fractions of MWh will be carried over and added to the following hour’s estimate. The estimate for the hour ending on hour 24 will be rounded to the nearest whole MWh, except if this results in an estimate equal to zero (0). If the estimate for the 24th hour is less than one (1), it will be set to one (1).

Responsibilities for Coordination

To ensure successful coordination the parties will be responsible as follows:
Supplier’s Responsibilities

- The Supplier will schedule its physical energy with PJM following PJM requirements.
- The Supplier, or any third parties acting as agents, contractors, or delegates of the Supplier and in possession of any relevant data, will cooperate with reasonable audit requests by the Company or professional auditing firms acting on the Company’s behalf. Such audits are intended to provide the Company with a reasonable confidence in the validity and accuracy of any information that the Company obtains from the Supplier or the third party. The Company shall bear the cost of the audit as well as the Supplier’s or third party’s time and expense for cooperation with the audit. The scope of the audit and the terms of payment are to be agreed upon by the Company and the Supplier or the third party prior to commencement of the audit.

Company’s Responsibilities

- The Company will compute and report daily to PJM and to the Supplier the Supplier’s THEO in a day after the fact basis using “eSchedules”. This THEO will constitute the initial estimate of the Supplier’s hourly load in the appropriate Company’s Zone for the purpose of hourly energy interchange accounting by PJM.
- The Company will report the Supplier’s THEO to PJM and to the Supplier by 12:00 noon each business day, and by 4:00 PM on the next business day following weekends and holidays.
- The Company will provide this data to the Suppliers via Internet, EDI (Electronic Data Interchange), or any other protocol developed and approved by the NJ Board of Public Utilities or the Pa. Public Utility Commission.
- The Company will not forecast the Supplier’s THEO.
- The Company will cooperate with reasonable audit requests by Suppliers or professional auditing firms acting on their behalf. Audits are intended to provide the Supplier with reasonable confidence that the Company is calculating the Supplier’s energy obligations in accordance with the user manual. The Supplier shall bear the cost of the audit as well as the Company’s time and expense for cooperation with the audit. The scope of the audit and the terms of payment are to be agreed upon by the Company and the Supplier prior to commencement of the audit. Specific customer information (unless released by the customer) and proprietary information shall not be provided by the Company. The Company will address audit requests on a first come, first served basis.
To facilitate the Supplier’s calculation and understanding of the Company’s reports, the Company will make available via its web site (http://www.firstenergycorp.com/supplierservices), supporting information and sample calculations illustrating the Company’s methodology applied in the determination of the Supplier’s obligation.

ENERGY RECONCILIATION, SETTLEMENT AND BILL ADJUSTMENTS — MONTHLY ADJUSTMENTS

As mentioned above, the estimated THEO will be the basis for the initial hourly energy interchange accounting by PJM which shall result in a monthly market-energy interchange bill based on the Met Ed, Penelec, or JCP&L load weighted average zonal Locational Marginal Price (“LMP”) to be issued by PJM. Subsequently, the Company will calculate adjustments to THEO based upon additional, more accurate data that the Company may obtain at the end of the full meter-reading cycle.

These adjustments will account for errors including, but not limited to, those due to data transmission, the inherent inaccuracies of using a one-month lagging UF for non-advanced meters, and additional errors that may result from the timing differences between the actual reading of the meters and closing of the billing cycle. These additional errors may occur during the first and last few days of a Supplier contract with a customer, since the initial obligation is calculated upon the number of customers in a Supplier’s list of customers as of the last billing date; while the Supplier’s final obligation is calculated for the period between meter readings. The Company will endeavor to read meters on the estimated date offered to the Supplier and close the billing cycle as soon as practicable following the meter readings.

The new THEO will be the total customer billed usage “shaped” proportionally to the Class Hourly Load Profile. This hourly-allocated (shaped) usage will then be adjusted for losses and compared to the previously estimated hourly obligation. The result will be placed in the appropriate hour. Next, the Company will sum the hourly differences for all of the customers served by the appropriate Supplier and report those hourly MWh values to PJM. PJM will then issue a final bill appropriately adjusting the initial bill. The bill adjustments issued by PJM will be calculated using the appropriate Company’s LMP for the hours adjusted.

These adjustments will be provided to PJM and the Supplier within two months after the month subject to adjustment. This will constitute a monthly energy reconciliation. These bill adjustments will be calculated as the difference between the initial THEO and a new obligation (new THEO) calculated with the actual customer’s billed usage for the period previously estimated. Typically, this period will coincide with the time between meter reads.

For customers with interval non-telemetered as well as customers with hourly telemetered meters, the new THEO will be the actual recorded usage for each hour in the period.

Adjustment calculations (Monthly non-interval metered customers):

Hourly “Shaping” Factor (HSF):
HSFp = \frac{(Hourly Load Profile Usage) p}{(Total Load Profile Usage) p}

New THEO = \text{Sum}\left[(HSF) p \times (Total Billed Customer Usage) p \times LFp]\right]

The Hourly Adjustment to the monthly bill is: Old THEO — New THEO.

The Company will make reasonable efforts to adjust hourly load profile data to account for sampling error prior to the monthly calculation of a Supplier’s “New THEO”.

Wholesale customers will be assigned energy requirements as accepted by PJM. If no such specific arrangement with a Supplier exists, energy obligation will be imputed to wholesale customers based on the methods in this manual.

“THIRD-TIER” RECONCILIATION

In addition to the adjustments mentioned above, PJM’s monthly bills to the Company and Supplier or scheduling coordinator shall be subject to adjustment for any errors in arithmetic, computation, meter readings or other errors as agreed upon by the Company and the Supplier or Scheduling Coordinator. Currently, the bills and/or credits will be calculated at the appropriate Company’s LMP, until such time as PJM utilizes the Supplier hourly bus distribution submitted by the Company in the determination of Supplier aggregate LMPs, and the Company has provided to each Supplier the initial bus distribution for its customers.

Disputes shall be resolved through the PJM Dispute Resolution process.

EXHIBIT A

Loss Factors

<table>
<thead>
<tr>
<th></th>
<th>MET-ED</th>
<th>PENELEC</th>
<th>JCP&amp;L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate Schedule LP, TP &amp; GT</td>
<td>1.0210</td>
<td>1.0407</td>
<td>1.039</td>
</tr>
<tr>
<td>Rate Schedule GP</td>
<td>1.0374</td>
<td>1.0606</td>
<td>1.061</td>
</tr>
<tr>
<td>All other Rate Schedules</td>
<td>1.0718</td>
<td>1.0945</td>
<td>1.118</td>
</tr>
</tbody>
</table>
Exhibit B

[Reserved.]
EXHIBIT C

Sample Calculation:

Hourly Obligation Calculation:

Determine the Total Hourly Energy Obligation to be reported to PJM by Noon on March 16, 1999 for a Supplier serving three (3) customers in MetEd’s RS No Heat Profile Group during the hour ending at 10 on March 15, 1999.

Available data from Prior (February) Bill

<table>
<thead>
<tr>
<th>Customer</th>
<th>Bill Dates</th>
<th>Billed Usage</th>
<th>Class Usage</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>2/3–3/6</td>
<td>2477 kWh</td>
<td>1717 kWh</td>
<td>32</td>
</tr>
<tr>
<td>#2</td>
<td>2/4–3/5</td>
<td>1100 kWh</td>
<td>1620 kWh</td>
<td>30</td>
</tr>
<tr>
<td>#3</td>
<td>2/3–3/7</td>
<td>1429 kWh</td>
<td>1756 kWh</td>
<td>33</td>
</tr>
</tbody>
</table>

The Class Profile Usage for the 10th hour of March 15th was 2.3 kWh.

Usage Factor (equivalent customers), and Hourly Obligation:

<table>
<thead>
<tr>
<th>Customer</th>
<th>Usage Factor</th>
<th>Eq. Cust.</th>
<th>Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>(2477/1717)</td>
<td>(1.44)</td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td>(1100/1620)</td>
<td>(0.68)</td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td>(1429/1756)</td>
<td>(0.81)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2.94 EC*2.3 kWh</td>
<td>6.751 kWh</td>
</tr>
</tbody>
</table>

The Supplier’s Total Hourly Energy Obligation reported to PJM for Class RS on the 16th for hour 10 on the 15th is:

6.751 kWh* 1.0718 = 7.236 kWh

Note: These calculations would be repeated for each class in which the Supplier serves customers.

Hourly Total:

The hourly total will be the sum of the hourly telemetered values upgraded for losses plus the hourly totals of the non-telemetered values upgraded for losses calculated following the methodology described above.
Fractions in each hour will be carried and added to the next hourly value. The value for hour ending on the 24th hour will be rounded to the next whole value. The hourly values reported to PJM for the prior 24-hour usage will be in whole MWh units.

Monthly Adjustments/Reconciliation:

Following the completion of the monthly meter read cycles applicable to that month, the Company will recalculate the Usage Factors for the period previously estimated.

Hence, based on metered usage corresponding to the month of March, the adjustment for hour 10th on March 15th will be calculated as follows:

**New/Actual data available for the Month of March**

<table>
<thead>
<tr>
<th>Customer</th>
<th>Bill Dates</th>
<th>New Usage</th>
<th>Class Usage</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>3/7~4/7</td>
<td>2315 kWh</td>
<td>2021</td>
<td>32</td>
</tr>
<tr>
<td>#2</td>
<td>3/6~4/4</td>
<td>1200 kWh</td>
<td>1894</td>
<td>30</td>
</tr>
<tr>
<td>#3</td>
<td>3/8~4/9</td>
<td>1630 kWh</td>
<td>2084</td>
<td>33</td>
</tr>
</tbody>
</table>

The Class Profile Usage for the 10th hour of March 15th continues to be 2.3 kWh.

The updated obligation will be “shaped” to the actual hourly typical class values calculated with the new data as follows:

“Shaping” is the methodology used to determine an hourly scaling factor to “shape” the customer’s monthly use to the typical class profile. This is just one way to determine the hourly adjustments to be sent to PJM for reconciliation.

<table>
<thead>
<tr>
<th>Customer</th>
<th>“Shaping factor”</th>
<th>Obligation kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>(2.3/2021)</td>
<td>(2.3/2021)*2315</td>
</tr>
<tr>
<td>#2</td>
<td>(2.3/1894)</td>
<td>(2.3/1894)*1200</td>
</tr>
<tr>
<td>#3</td>
<td>(2.3/2084)</td>
<td>(2.3/2084)*1630</td>
</tr>
</tbody>
</table>

Total for the hour ----------------------------------------------- 5.891 kWh

Total Hourly Energy Obligation for Class RS = 5.891 kWh * 1.0718 = 6.314 kWh

The Company will submit to PJM a calendar month adjustment file containing adjustment amounts for each hour on that calendar month. The adjustment amounts will be reported on kWh units. For this example the adjustment amount for hour 10th on March 15th will be (7.236 kWh - 6.314 kWh) = 0.922 kWh, plus any other adjustments to the telemetered data. In this case the Company owes PJM payment for 0.962 kWh at the Met-Ed Zonal-Load weighted LMP for that hour.

**Purpose**
The purpose of this Attachment M-1 is to give PJM members serving load in a FirstEnergy Zone(s) the understanding of how each hour of an operating day’s Total Hourly Energy Obligation (“THEO”) is developed, in accordance with the PJM Open Access Transmission Tariff, the PJM Operating Agreement, Reliability Assurance Agreement or other relevant PJM documents (the “PJM Documents”) and submitted to PJM. Attachment M-1 pertains to both wholesale and retail Load Serving Entities (“LSEs”) serving load in the following FirstEnergy Electric Distribution Companies (“EDC”) Zones (the “FirstEnergy Zones”): ATSI Utilities (consisting of Ohio Edison Company, Toledo Edison Company, Cleveland Electric Illuminating Company and Pennsylvania Power Company), Metropolitan Edison Company, Pennsylvania Electric Company, Jersey Central Power and Light Company, Monongahela Power Company, West Penn Power Company, and Potomac Edison Company.

Attachment M-1 is broken into three main sections. The first section titled “Terms” defines terms specific to this Attachment M-1 that are not found in the PJM Documents. The second section titled “Wholesale” describes processes for determining the THEO for wholesale LSEs such as municipalities or rural electric cooperatives. The final section titled “Retail” describes processes for estimating THEO for retail LSEs such as retail generation service providers serving retail customers or retail suppliers providing provider of last resort services where a state retail supplier tariff or other document governing State/PJM interaction is in effect.

FirstEnergy performs the THEO calculation and subsequently uploads this data to PJM (via PJM’s eSchedule eSuite application) on behalf of all retail and wholesale LSEs serving load in each FirstEnergy Zone with no exceptions.

Questions concerning the methodologies described in this Attachment M-1 may be submitted by visiting the Supplier Support section of the FirstEnergy corporate website located here: https://www.firstenergycorp.com/supplierservices.

Section I: Terms

Unaccounted for Energy – Energy that is remaining after comparing: (a) the FirstEnergy Zone load determined by summing physical generation delivered to a FirstEnergy Zone plus net imports/exports of energy into/out of a FirstEnergy Zone to: (b) the sum of all wholesale and retail customer’s metered load, whether interval metered or estimated, including contractually or otherwise mutually determined losses in any given hour. Unaccounted for energy is not allocated to wholesale LSEs unless otherwise specified in their contracts/agreements with FirstEnergy.
Section II: Wholesale

The FirstEnergy EDCs are required to determine the THEO for each wholesale LSE in the FirstEnergy Zones and submit this information to PJM per practices under the PJM Documents. The following procedures and methodologies describe how THEO is determined.

Note: Wholesale LSE’s THEO is determined in accordance with current and approved contractual obligations between FirstEnergy EDCs and the respective wholesale LSE. Should the current and approved agreements be silent on procedural matters regarding the determination and submittal of wholesale LSE’s THEO, the PJM Documents shall be used to establish such procedures including those outlined below.

FirstEnergy uses the following equation to determine a wholesale LSE’s THEO in a FirstEnergy Zone. If the wholesale LSE serves load in more than one FirstEnergy Zone, the THEO is determined separately for each Zone.

\[
\text{THEO} = \sum_{x=1}^{n} (\text{Wholesale LSE’s Interconnection Hourly Meter Readings} \times (1.0 + \text{the Applicable Loss Factor}))
\]

where:

\[
\text{THEO} = \text{wholesale LSE’s hourly energy consumption in any given hour of the previous operating day in a FirstEnergy Zone}
\]

\[
x = \text{A specific Meter* included in the determination of a wholesale LSE’s hourly energy consumption in a FirstEnergy Zone}
\]

\[
n = \text{The total number of Meters aggregated to determine wholesale LSE’s THEO}
\]

Wholesale LSE’s Interconnection Hourly Meter Reading (WIMR) = the quantity of energy consumed by the wholesale LSE at an individual wholesale LSE’s Interconnection as shown on the Meter in a given hour. The WIMR will reflect the netting out of the wholesale LSE’s generation, or demand response capability operating during that hour, if any, plus any third party-owned generation located on the wholesale LSE’s side of the Interconnection and wheeled across the wholesale LSE’s system to the FirstEnergy EDC’s system.

Applicable Loss Factor (ALF) = the contractually or otherwise mutually determined loss factor in effect to account for losses across the applicable FirstEnergy EDC’s system to the LSE’s system. Such ALF may be voltage dependent.

* For purposes of this document, the term “Meter” refers to the billing quality metering devices and related equipment owned by FirstEnergy and/or the wholesale LSE, located at or near the interconnection point (the “Interconnection”) between the applicable FirstEnergy EDC and wholesale LSE systems and used to measure the wholesale LSE’s THEO.
In the case where the actual WIMR is not obtained by FirstEnergy from one or more of the Meters in time to use in the calculation of the wholesale LSE’s THEO, FirstEnergy will use an estimated WIMR in place of an actual WIMR for any missing hour(s) of Meter data.

The derivation of an estimated WIMR will be determined on a case by case basis and be dependent on the reason for and the duration of the event triggering the need for an estimated WIMR. FirstEnergy’s WIMR methodology will take into account as appropriate variables such as the history of the Interconnection Meter readings; load growth; the season of the year; temperature and any other variable(s) that could significantly affect the accuracy of the WIMR.

The following chart illustrates possible cases and outcomes of using this methodology to estimate the WIMR to be provided to PJM. The methodology used to generate a WIMR in a particular case is dependent on the reason the actual WIMR was not received.

<table>
<thead>
<tr>
<th>Case</th>
<th>Reason</th>
<th>Primary (Day After) Reconciliation Estimate</th>
<th>Secondary (60-Day) Reconciliation Estimate</th>
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</thead>
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<tr>
<td>1</td>
<td>Short-term communication outage (&lt;59 days)</td>
<td>Profile generated in FE Settlement System*</td>
<td>Not applicable if actual Meter data received</td>
</tr>
<tr>
<td>2</td>
<td>Long-term communication error (&gt;=59 days)</td>
<td>Profile generated in FE Settlement System*</td>
<td>Not applicable if actual Meter data received via handheld device or manual entry</td>
</tr>
<tr>
<td>3</td>
<td>Short-term Meter/metering equipment malfunction (&lt; 59 days)</td>
<td>Profile generated in FE Settlement System*</td>
<td>Estimate in Meter Data Management System*</td>
</tr>
<tr>
<td>4</td>
<td>Long-term Meter/metering equipment malfunction (&gt;= 59 days)</td>
<td>Estimate in meter data management system*</td>
<td>Estimate in meter data management system*</td>
</tr>
</tbody>
</table>

* If the FE Settlement or Data Management System(s) data is not available or may not be accurate, data obtained from the wholesale LSE’s Meter, SCADA or other accurate source will be used. Regardless of estimating methodology or data source, FirstEnergy will coordinate the estimate(s) of wholesale LSE’s THEO with the affected wholesale LSE.

**Section III: Retail**

The THEO for a retail LSE’s is determined in accordance with manuals posted on the FirstEnergy Corp. website. The documents in each respective State jurisdiction and EDC’s supplier support website location are titled “FirstEnergy THEO Manual”. These documents will reflect jurisdictional differences. The location of FirstEnergy’s supplier support website is located at: https://www.firstenergycorp.com/supplierservices.
ATTACHMENT M-2 (FirstEnergy Zones)
FirstEnergy Procedure Manual for Determining a Load Serving Entity’s Peak Load Contribution (PLC) and Network Service Supplier Peak Load Share (NSPL)

INTRODUCTION

This document is intended to define the process Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), and Jersey Central Power & Light Company (“JCP&L”) d/b/a FirstEnergy (“Company”) and Third Party Suppliers (New Jersey) and Electric Generation Suppliers (Pennsylvania) (“Suppliers”) will apply to calculate and coordinate the information transfer for retail open access associated with Supplier unforced capacity and transmission service obligations in the Company Zone(s) of the PJM Interconnection. A complete description of the procedures, together with examples and details on customer load profiles and customer classes, is maintained at FirstEnergy’s web site (http://www.firstenergycorp.supplierservices).

Supplier Unforced Capacity Obligations and Supplier Network Integrated Transmission Service (NITS) Obligations

In accordance with the PJM Reliability Assurance Agreement (“RAA”), the PJM Open Access Transmission Tariff (“OATT”), and assorted PJM Manuals, Procedures and Business Rules:

RULE 1: The Company is responsible for administering the LDC functions of the JCP&L Zone, the Met-Ed Zone and the Penelec Zone.

RULE 2: On an annual basis PJM assigns to each LDC Zone the LDC’s Zonal capacity obligation Peak Load Share of the PJM Pool capacity requirement and the LDC’s Zonal NITS obligation (Zonal Transmission Peak).

RULE 3: On an annual basis each LDC is responsible for allocating their assigned Zonal Peak Load Share to customers in the LDC’s Zone (a.k.a., the capacity peak load tickets and the NITS tickets, jointly referred to as “peak load tickets”).

RULE 4: The Company will determine each Supplier’s capacity and NITS allocation based the Supplier’s portfolio of customers for a given day (the Supplier allocations will be based on the sum of their portfolio of customers peak load tickets).

RULE 5: The Company will report each Supplier capacity and NITS allocation to PJM on a timetable defined by PJM using PJM designated systems.

RULE 6: Each Supplier is responsible for scheduling its capacity resources and/or Transmission reservations with PJM following PJM requirements.
**Calculation of the Customer Capacity and NITS Peak Load Tickets**

**RULE 7:** The LDC Zonal capacity allocation determined by PJM is based on the various zonal loads at the time of the five PJM Pool peak hours. The method used by PJM includes, but is not limited to: weather normalization, unrestricted loads (i.e., add backs, such as curtailed loads), historical smoothing (regression analysis), seasonal smoothing (i.e., 5 CP’s) and zonal loads at the system (or Interchange) level (i.e., includes losses). Furthermore, PJM Business Rules include requirements related to customer peak load tickets, such as those promulgated under Demand Response and Behind the Meter. In calculating customer peak load tickets, the Company shall include load components reflective of the zonal allocation method and business rules currently in effect by PJM.

**RULE 8:** The basic framework for performing the annual customer peak load allocation (tickets) requires using available customer data. Such customer data varies by meter type, consequently different algorithms are required to calculate the customer peak load tickets for the various meter types. The Company will use the usage data, which in the Company’s judgment most closely reflects the customer actual usage at the time of the peak hours.

**RULE 9:** Actual metered loads for (hourly) interval metered customers are adjusted to include any load curtailed as a result of Active Load Management (ALM) events. The adjusted loads are referred to as “unrestricted loads”.

**RULE 10:** Not all customers have hourly usage metering, therefore the customer allocation process will necessarily require using load profiles.

**RULE 11:** The Company will ensure that the sum of the peak load tickets corresponding to the customers active on each of the five peak days used in the calculation will average to equal the LDC’s zonal allocation.

**RULE 12:** The Company will adjust each customers loads for losses consistent with the most recent state commission filing of loss factors by voltage classes.

**RULE 13:** Within the Zone there can and do exist “load zones” (i.e., municipalities, cooperatives, etc.) which may or may not be directly PJM Suppliers. These load-zones will have their aggregate customer peak load tickets determined consistent with the methodology used for all customers, unless a) an alternate methodology is agreed to by the Company, the Supplier and PJM, or b) PJM directs the Company to follow a different methodology as a matter of PJM requirements.

**Coordination, Reconciliation and Settlement**

**RULE 14:** The Supplier capacity and/or THE Supplier NITS allocations submitted by the Company to PJM for a given day shall be considered final so long as the actual meter read date of switching customers for that day occurs within +/- 5 days of the scheduled meter read date.
RULE 15: In the event a switching customer’s meter read date is more than 5 days from the scheduled meter read date or there are errors in customer usage which result in adjustment to Supplier billing to customers, reasonable efforts will be made to adjust the Supplier Peak Load allocation accordingly. The Supplier and the Company shall agree upon such adjustments. Adjustments will be calculated based upon the weighted average of the published PJM capacity credit market clearing price for the applicable time frame. PJM monthly bills to the Company and Supplier (or their Scheduling Coordinator) shall be subject to the adjustment agreed upon by the Company and the Supplier (or their Scheduling Coordinator). Disputes shall be resolved through the PJM Dispute Resolution process.

RULE 16: The Supplier, any third party acting on behalf of the Supplier, or any authorized entity in possession of any relevant data, will cooperate with reasonable audit requests by the Company or professional auditing firms acting on the Company’s behalf. Such audits are intended to provide the Company with a reasonable confidence in the validity and accuracy of any information that the Company obtains from the Supplier or third party. The Company shall bear the cost of the audit. The scope of the audit and the terms of payment are to be agreed upon by the Company and the Supplier or the third party prior to commencement of the audit.

RULE 17: The Supplier, any third party acting on behalf of the Supplier, or any authorized entity in possession of any relevant data for the determination of customer peak load ticket as described herein, will cooperate to provide the full and complete data required to the Company within reasonable timetables.

RULE 18: The Company will cooperate with reasonable audit requests by Suppliers. Audits are intended to provide the Supplier with reasonable confidence that the Company is calculating the Supplier’s capacity and NITS allocations. The Supplier shall bear the cost of the audit. The scope of the audit and the terms of payment are to be agreed upon by the Company and the Supplier prior to commencement of the audit. Specific customer information (unless released by the customer) and proprietary information shall not be provided by the Company. The Company will address audit requests on a first come, first served basis.

PURPOSE

The purpose of this Attachment M-2 is to establish the procedures and methodologies under which the FirstEnergy regulated affiliates will determine the PLC and NSPL, as defined/specifed 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 Load Serving Entity (“LSE”) serving load in the following FirstEnergy Electric Distribution Companies (“EDC”) Zones (the “FirstEnergy Zones”): ATSI Utilities (consisting of Ohio Edison Company, Toledo Edison Company, Cleveland Electric Illuminating Company and Pennsylvania Power Company), Metropolitan Edison Company, Pennsylvania Electric Company, Jersey Central Power and Light Company, Monongahela Power Company, West Penn Power Company, and Potomac Edison Company.

SECTION I: TERMS
SECTION II: WHOLESALE

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

This Attachment M-2 supplements and clarifies the procedures and methodologies under which the FirstEnergy regulated affiliates 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.

PLC Calculation

The PLC 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 and wholesale LSE systems. Furthermore, all calculations in this Attachment M-2 will be done consistent with the requirements of the PJM Documents. 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 (the “High 5 Hours”) as determined by PJM. This load is grossed up for contractual or otherwise determined losses.

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

   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 load by the ratio of (a) the appropriate FirstEnergy Zone’s weather normalized peak as determined by PJM and (b) the average of FirstEnergy unrestricted loads during the High 5 Hours.

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 determined losses):

- **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 load add-back during High 5 Hour 4:** 5 MW
- **Wholesale LSE’s Unrestricted Load during PJM Peak 4 = 98 + 5 = 103 MW**

**Step 3:** Calculate Wholesale LSE’s Average Unrestricted Load

\[
\frac{(85 + 86 + 70 + 103 + 90)}{5} = 86.8 \text{ MW}
\]

**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

\[
950 / \left(\frac{(1000 + 1100 + 850 + 1255 + 1175)}{5}\right) = 0.883
\]

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

\[
0.883 \times 86.8 = 76.6 \text{ MW}
\]

**NSPL Calculation**
The NSPL calculation for a wholesale LSE is simply the wholesale LSE’s metered load at the time of the FirstEnergy Zone’s highest transmission peak value as determined by PJM grossed up for contractual or otherwise determined losses.

Numeric Example:

FirstEnergy Zone highest transmission 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 determined losses): 90 MW

Wholesale LSE’s NPSL = 90 MW

SECTION III: RETAIL

Retail LSEs’, PLCs and NSPLs are determined in accordance with manuals posted on the FirstEnergy Corp. website. The documents in each respective State jurisdiction and EDC’s supplier support website location are titled “FirstEnergy PLC/NSPL Manual”. These documents will reflect jurisdictional differences. The location of FirstEnergy’s supplier support website is located at: https://www.firstenergycorp.com/supplierservices.
Attachment B

Sections M-1 and M-2 of the PJM Open Access Transmission Tariff

Clean Version
Purpose

The purpose of this Attachment M-1 is to give PJM members serving load in a FirstEnergy Zone(s) the understanding of how each hour of an operating day’s Total Hourly Energy Obligation (“THEO”) is developed, in accordance with the PJM Open Access Transmission Tariff, the PJM Operating Agreement, Reliability Assurance Agreement or other relevant PJM documents (the “PJM Documents”) and submitted to PJM. Attachment M-1 pertains to both wholesale and retail Load Serving Entities (“LSEs”) serving load in the following FirstEnergy Electric Distribution Companies (“EDC”) Zones (the “FirstEnergy Zones”): ATSI Utilities (consisting of Ohio Edison Company, Toledo Edison Company, Cleveland Electric Illuminating Company and Pennsylvania Power Company), Metropolitan Edison Company, Pennsylvania Electric Company, Jersey Central Power and Light Company, Monongahela Power Company, West Penn Power Company, and Potomac Edison Company.

Attachment M-1 is broken into three main sections. The first section titled “Terms” defines terms specific to this Attachment M-1 that are not found in the PJM Documents. The second section titled “Wholesale” describes processes for determining the THEO for wholesale LSEs such as municipalities or rural electric cooperatives. The final section titled “Retail” describes processes for estimating THEO for retail LSEs such as retail generation service providers serving retail customers or retail suppliers providing provider of last resort services where a state retail supplier tariff or other document governing State/PJM interaction is in effect.

FirstEnergy performs the THEO calculation and subsequently uploads this data to PJM (via PJM’s eSchedule eSuite application) on behalf of all retail and wholesale LSEs serving load in each FirstEnergy Zone with no exceptions.

Questions concerning the methodologies described in this Attachment M-1 may be submitted by visiting the Supplier Support section of the FirstEnergy corporate website located here: https://www.firstenergycorp.com/supplierservices.

Section I: Terms

Unaccounted for Energy – Energy that is remaining after comparing: (a) the FirstEnergy Zone load determined by summing physical generation delivered to a FirstEnergy Zone plus net imports/exports of energy into/out of a FirstEnergy Zone to: (b) the sum of all wholesale and retail customer’s metered load, whether interval metered or estimated, including contractually or otherwise mutually determined losses in any given hour. Unaccounted for energy is not allocated to wholesale LSEs unless otherwise specified in their contracts/agreements with FirstEnergy.
Section II: Wholesale

The FirstEnergy EDCs are required to determine the THEO for each wholesale LSE in the FirstEnergy Zones and submit this information to PJM per practices under the PJM Documents. The following procedures and methodologies describe how THEO is determined.

Note: Wholesale LSE’s THEO is determined in accordance with current and approved contractual obligations between FirstEnergy EDCs and the respective wholesale LSE. Should the current and approved agreements be silent on procedural matters regarding the determination and submittal of wholesale LSE’s THEO, the PJM Documents shall be used to establish such procedures including those outlined below.

FirstEnergy uses the following equation to determine a wholesale LSE’s THEO in a FirstEnergy Zone. If the wholesale LSE serves load in more than one FirstEnergy Zone, the THEO is determined separately for each Zone.

\[
\text{THEO} = \sum_{x=1}^{n} (\text{Wholesale LSE’s Interconnection Hourly Meter Readings} \times (1.0 + \text{the Applicable Loss Factor}))
\]

where:

\text{THEO} = \text{wholesale LSE’s hourly energy consumption in any given hour of the previous operating day in a FirstEnergy Zone}

\text{x} = \text{A specific Meter* included in the determination of a wholesale LSE’s hourly energy consumption in a FirstEnergy Zone}

\text{n} = \text{The total number of Meters aggregated to determine wholesale LSE’s THEO}

\text{Wholesale LSE’s Interconnection Hourly Meter Reading (WIMR)} = \text{the quantity of energy consumed by the wholesale LSE at an individual wholesale LSE’s Interconnection as shown on the Meter in a given hour. The WIMR will reflect the netting out of the wholesale LSE’s generation, or demand response capability operating during that hour, if any, plus any third party-owned generation located on the wholesale LSE’s side of the Interconnection and wheeled across the wholesale LSE’s system to the FirstEnergy EDC’s system.}

\text{Applicable Loss Factor (ALF)} = \text{the contractually or otherwise mutually determined loss factor in effect to account for losses across the applicable FirstEnergy EDC’s system to the LSE’s system. Such ALF may be voltage dependent.}

* For purposes of this document, the term “Meter” refers to the billing quality metering devices and related equipment owned by FirstEnergy and/or the wholesale LSE, located at or near the interconnection point (the “Interconnection”) between the applicable FirstEnergy EDC and wholesale LSE systems and used to measure the wholesale LSE’s THEO.
In the case where the actual WIMR is not obtained by FirstEnergy from one or more of the Meters in time to use in the calculation of the wholesale LSE’s THEO, FirstEnergy will use an estimated WIMR in place of an actual WIMR for any missing hour(s) of Meter data.

The derivation of an estimated WIMR will be determined on a case by case basis and be dependent on the reason for and the duration of the event triggering the need for an estimated WIMR. FirstEnergy’s WIMR methodology will take into account as appropriate variables such as the history of the Interconnection Meter readings; load growth; the season of the year; temperature and any other variable(s) that could significantly affect the accuracy of the WIMR.

The following chart illustrates possible cases and outcomes of using this methodology to estimate the WIMR to be provided to PJM. The methodology used to generate a WIMR in a particular case is dependent on the reason the actual WIMR was not received.

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<th>Case</th>
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<td>4</td>
<td>Long-term Meter/metering equipment malfunction (&gt;=59 days)</td>
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<td>Estimate in meter data management system*</td>
</tr>
</tbody>
</table>

* If the FE Settlement or Data Management System(s) data is not available or may not be accurate, data obtained from the wholesale LSE’s Meter, SCADA or other accurate source will be used. Regardless of estimating methodology or data source, FirstEnergy will coordinate the estimate(s) of wholesale LSE’s THEO with the affected wholesale LSE.

Section III: Retail

The THEO for a retail LSE is determined in accordance with manuals posted on the FirstEnergy Corp. website. The documents in each respective State jurisdiction and EDC’s supplier support website location are titled “FirstEnergy THEO Manual”. These documents will reflect jurisdictional differences. The location of FirstEnergy’s supplier support website is located at: https://www.firstenergycorp.com/supplierservices.
PURPOSE

The purpose of this Attachment M-2 is to establish the procedures and methodologies under which the FirstEnergy regulated affiliates 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 Load Serving Entity (“LSE”) serving load in the following FirstEnergy Electric Distribution Companies (“EDC”) Zones (the “FirstEnergy Zones”): ATSI Utilities (consisting of Ohio Edison Company, Toledo Edison Company, Cleveland Electric Illuminating Company and Pennsylvania Power Company), Metropolitan Edison Company, Pennsylvania Electric Company, Jersey Central Power and Light Company, Monongahela Power Company, West Penn Power Company, and Potomac Edison Company.

SECTION I: TERMS

[Reserved]

SECTION II: WHOLESALE

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

This Attachment M-2 supplements and clarifies the procedures and methodologies under which the FirstEnergy regulated affiliates 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.

PLC Calculation

The PLC 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 and wholesale LSE systems. Furthermore, all calculations in this Attachment M-2 will be done consistent with the requirements of the PJM Documents. 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 (the “High 5 Hours”) as determined by PJM. This load is grossed up for contractual or otherwise determined losses.

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

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 load by the ratio of (a) the appropriate FirstEnergy Zone’s weather normalized peak as determined by PJM and (b) the average of FirstEnergy unrestricted loads during the High 5 Hours.

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 determined losses):

   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 load add-back during High 5 Hour 4: 5 MW
   Wholesale LSE’s Unrestricted Load during PJM Peak 4 = 98 + 5 = 103 MW

   Step 3: Calculate Wholesale LSE’s Average Unrestricted Load

   \[
   \frac{85 + 86 + 70 + 103 + 90}{5} = 86.8 \text{ MW}
   \]
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

\[
\frac{950}{((1000 + 1100 + 850 + 1255 + 1175) / 5)} = 0.883
\]

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

\[0.883 \times 86.8 = 76.6 \text{ MW}\]

**NSPL Calculation**

The NSPL calculation for a wholesale LSE is simply the wholesale LSE’s metered load at the time of the FirstEnergy Zone’s highest transmission peak value as determined by PJM grossed up for contractual or otherwise determined losses.

Numeric Example:

FirstEnergy Zone highest transmission 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 determined losses): 90 MW

Wholesale LSE’s NSPL = 90 MW

**SECTION III: RETAIL**

Retail LSEs’ PLCs and NSPLs are determined in accordance with manuals posted on the FirstEnergy Corp. website. The documents in each respective State jurisdiction and EDC’s supplier support website location are titled “FirstEnergy PLC/NSPL Manual”. These documents will reflect jurisdictional differences. The location of FirstEnergy’s supplier support website is located at: https://www.firstenergycorp.com/supplierservices.