Capacity and Energy Reconciliation Guidelines

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Capacity and Energy Reconciliation Guidelines

Introduction

This document provides information relating to the Capacity and Energy Reconciliation responsibilities of Consolidated Edison Company of New York, Inc. (CECONY) in the New York Independent System Operator (NYISO) Administered Markets.

CECONY is the Transmission Owner (TO) and Metering Authority for electric load in three NYISO subzones.

Zone ID	Zone Name	Subzone PTID	Subzone Name
H	MILLWD	80482	CONED MILLWOOD
I	DUNWOD	55532	CONED DUNWOODIE
J	N.Y.C.	55523	CONED NYCITY

CECONY is responsible to provide Capacity and Energy Reconciliation services to Energy Supply Companies operating in these market subzones. An Energy Supply Company (ESCO) is a non-utility business deemed eligible by the New York State Public Service Commission (PSC) and approved by CECONY to sell electricity to end users within the CECONY Transmission District (TD).

This guide also uses the term Load Serving Entity (LSE) to describe an ESCO. The NYISO defines a LSE in their Market Services Tariff as a company that supplies Energy, Capacity and/or Ancillary Services to retail customers located within the New York Control Area (NYCA). This definition applies to both an ESCOs and to CECONY as the utility providing load to customers that have not elected to purchase energy from an ESCO.

CECONY performs Capacity Load Forecast and Load Shift reporting to the NYISO for all LSEs in the TD. In this guide, the term Capacity refers to the Load Forecast Tag CECONY calculates for each account. The NYISO uses the account Load Forecast Tags to calculate Minimum Unforced Capacity Requirements for Load Serving Entities.

CECONY also submits Transmission Owner Load (TOL) reports to the NYISO. The TOL assigns a proportional share of the wholesale subzone load (MLOAD) to each LSE. This manual refers to TOL reporting as Energy Reconciliation.

As of May 1, 2016, the Transmission Owner Data Reporting System (TODRS) has replaced the legacy CAP (Capacity) and RECON (Reconciliation) computer applications that retrieve customer billing data to perform routine calculations and data reporting. A CECONY analyst uses the TODRS to fulfill CECONY's responsibilities to the NYISO and LSEs.

Explanation of Load Shapes

The TODRS utilizes standardized load shapes to develop the hourly usage for accounts without interval data recorders. This system also uses load shapes when the recorder data for an account is unavailable or unreliable.

The current file of load shapes is available for download on the CECONY Retail Access Information System (RAIS) website.

Definition of Terms

Load Shape is a series of 24 time-ordered values representing the hourly demand of a customer or group of customers. CECONY Rate Engineering develops load shapes from sample data as part of the company's Load Research Program.

Load shape selection depends on the following criteria (Load Shape Selection Criteria):

- Day type
- Service Class
- Stratum
- Temperature Reference

Day Type is an indicator of the calendar specific characteristics of a daily load shape. The TODRS assigns a representative load shape based upon the day of the week and holiday criteria.

The Day Type codes are:

MON - Monday
TUE - Tuesday
WED - Wednesday
THU - Thursday
FRI - Friday
SAT - Saturday
SUN - Sunday
HOL - Weekday holidays where load does not follow the normal weekday shape

Holiday Day Type Schedule

New Year's Day
Memorial Day

Juneteenth

Independence Day

Labor Day

Thanksgiving Day

Christmas Eve

Christmas Day

Day After Christmas

New Year's Eve

Service Class represents a group of customer types with similar load characteristics. The Con Edison tariff establishes the Service Classes definitions

Stratum Category represents a subgroup within a service class. It is a measure of the size of a customer as defined by a particular billing quantity. CECONY refers to this billing quantity as the Stratum Billing Variable. The table below relates a Stratum Billing Variable to the applicable Service Class.

Service Class	Service Class Description	Stratum Billing Variable
SC 1	Residential (excluding Religious and Water Heating)	Annual kWh
SC 1 WH	Residential & Religious Water Heating	Annual kWh
SC 2	General Small Commercial	June-September kWh
SC 5	Electric Traction Systems	Annual kWh
SC 6	Private Street Lighting	Month of Year
SC 7	Residential Space Heating & Water Heating	Annual kWh
SC 8	Multiple Dwelling Redistribution	Average of June-September kW
SC 9	General Large Commercial (excluding Space Heating)	Average of June-September kW
SC 12	Multiple Dwelling Space Heating	November-February kWh

The following sub-classes have separate load shapes developed from their corresponding load research data.

Service Class	Service Class Description	Stratum Billing Variable
SC 51	Religious	June-September kWh

The Stratum Billing Variable in-use is derived from the most recent monthly billing information available.

Temperature Variable (TV) represents the temperature-based value associated with a load shape. Once the value is computed for a particular day, a load shape appropriate for the temperature within a given range can be selected. The temperature for the period May 1st through October 31st is based on a three-day weighted average of daily 24-hour dry/wet bulb temperatures as measured in Central Park and La Guardia. For the period November 1st through April 30th it is based on a three-day weighted average of daily 24-hour dry bulb temperatures as measured in Central Park and LaGuardia. The TV reference is defined as:

May - October:
TV: 70% TV component Current Day + 20% TV component Prior Day + 10% TV component Second Prior Day
Where TV component = maximum of the rolling three hour average of the Wet/Dry hourly temperatures occurring between 9AM to 9PM
And Wet/Dry hourly temperature = average of wet hourly temperature and dry hourly temperature

November-March:
TV: 80% TV component Current Day + 20% TV component Previous Day
Where TV component = average dry bulb temperature at 4pm, 5pm, and 6pm

April:
TV: 80% TV component Current Day + 20% TV component Prior Day
Where TV component = maximum of the rolling three hour average of the Wet/Dry hourly temperatures occurring between 9AM to 9PM
And Wet/Dry hourly temperature = average of wet hourly temperature and dry hourly temperature

The TV for each day of the year is posted in the Capacity & Energy Issues section of the Retail Access System website.

Load Shape Application

Reporting Period Load Shapes

The TODRS creates load profiles for customers over the billing period by selecting a shape for each day in the period using the Load Shape Selection Criteria referenced above, and then appending each successive day's shape in time-series order to create a profile for the entire period.

Load Shape Adjustment

Each hourly value in a load shape represents the consumption in KWh for a standard account meeting the four selection criteria for the given day. The sum of the hourly values for a given reporting period is equal to the consumption in KWh for the standard account over the entire period.

To create a load profile for an actual customer account, the TODRS first retrieves the account's billing period start date, end date, peak demand,and consumption in KWh from the customer billing system. The billed consumption is based on the difference in meter readings collected on the start and end date.

Next, the system collects and assembles the daily load shapes for each day of the billing period and calculates the sum of the hourly load shapes values.

The TODRS then divides the account's billed consumption by the load shape derived consumption to calculate a scaling factor unique to the customer account in the billing period.

The system then multiplies each hourly load shape value by the scaling factor. The result is an hourly profile of the customer's consumption. The total of the scaled values is equal to the customer's consumption for the billing period.

For accounts with billed peak demand , TODRS matches the billing period peak load to the billed peak demand while maintaining the total energy of the billing period.

Explanation of Capacity Calculations

Summary

Each year, CECONY assigns a Load Forecast Tag to each account in its TD using a three-step process. The tag remains valid for the account regardless of supplier for the entire NYISO capability year and will not change under normal circumstances.

The NYISO capability year begins on May 1st and ends the following April 30th.

Load Forecast Tag Assignment Process

Step 1 Assign a Metered Coincident Demand (MCD) to each account.

CECONY defines the Metered Coincident Demand (MCD) as an account's electrical consumption during the New York Control Area Adjusted Actual Peak Hour (NYCA Peak Hour) as measured or estimated from retail electric meters.

The NYCA Peak Hour for the current capability year is included on Table 2

Step 2 Calculate the Zonal Coincident Demand (ZCD) for each account.

In this step, CECONY applies TD transmission, distribution, and other losses to produce the unaccounted for energy (UFE) factor to each account's MCD to calculate the account's contribution to the applicable NYISO Subzone Load during the NYCA Peak Hour. CECONY refers to this factor as the Subzone True-up Factor (STF) and the product of the calculation as the Zonal Coincident Demand (ZCD). Please note that once a ZCD is calculated for an account, it remains constant throughout the capacity year.

For those accounts not active during the NYCA peak day, TODRS assigns the ZCD as follows:

- For new accounts at the same premise assigns the ZCD from the previous account and later benchmark their consumption to similar accounts in the same Service Class to determine a more representative ZCD and strata
- For new accounts in new premises, the TODRS will initially assign an average ZCD (default tag) and later benchmark their consumption to similar accounts in the same Service Class to determine a more representative ZCD and strata

The Subzone True-up Factor for the current capability year is included on Table 2

Step 3

Next the TODRS applies daily a proportional factor to all accounts ZCDs to allocate the difference between the NYISO Forecasted Peak Load for the coming capability year, and the sum of all ZCDs in the TD system by subzone. .

CECONY refers to this factor as the Forecast True-up Factor (FTF) and the product of the calculation as the Load Forecast Tag (LFT).The Load Forecast Tag for each account is updated daily, this is because as more customers/accounts are added to the TD system the NYISO market capacity obligation of each customers is reduced proportionally and vice-versa..

The NYCA Forecasts are included on Table 2. These updated FTFs will be available in the RAIS website on a monthly basis.

Step 4 NYISO Load Forecast Tag Conversion to LSE Unforced Capacity Requirement.

The Con Edison Retail Choice website refers to the Load Forecast Tag as an ICAP Tag and ZCD as the raw tag. This Guide uses the term Load Forecast Tag to be consistent with NYISO terminology.

CECONY submits a Load Forecast for each LSE to the NYISO prior to the monthly UCAP auction. A Load Serving Entity's Load Forecast is equal to the sum of the account Load Forecast Tags assigned to that LSE taking into consideration accounts pending to transfer to each LSE.

The NYISO converts the LSE Load Forecast to the LSE Minimum Unforced Capacity Requirement using procedures established by their Market Services Tariff.

Step 1 - Assign a Metered Coincident Demand (MCD) to each account

The TODRS groups accounts by electric metering type to assign MCD.

The following table describes the customer groupings and metering types.

Customer Grouping by Meter Type	Electric Metering
Scalar Meter	Records total energy used throughout a billing cycle Does not record maximum billing period demand Interval data derived through use of load shapes
Conventional Demand & Time of Use- without IDR	Conventional Demand: Records total energy used throughout a billing cycle Records maximum demand during the billing cycle, does not record the date or time of occurrence Interval data derived through use of load shapes Time-of-Use: The Time-of-Use (TOU) designation refers to accounts that reduce electricity use during peak hours; Under the program, peak and off-peak rates apply for electricity use depending on when it is used.
Interval Meter	One or more meters record hourly energy during a billing period All meters connected to an Interval Data Recorder (IDR) Multiple recorders may be assigned to a single account
Mixed Meter	A single account number with metering similar to Interval and Demand meter or scalar meter. Energy consumed by a Mixed Metered account is measured by combining the hourly interval load and the non-interval hourly load (that is determined by load shapes).

Customer Grouping by Meter Type	Electric Metering
Other	Accounts with Economic Development Program Allocations NYISO Special Case Resource accounts NYISO Generator Station Power accounts Authorized un-metered service (e.g. street lighting) Coincident-billed accounts (e.g. Metro North Traction)

Assignment of a Stratum Category to an account

The TODRS verifies and updates all accounts' Stratum Category once a year..

For an account with enough billing history to determine its Stratum Billing Variable:

1) The system retrieves the billing data for the account from the period defined in the Stratum Billing Variable.
2) The system calculates the Stratum Billing Variable and assigns a Stratum Category to the account. If this is different than its current Stratum Category assignment, the Category is updated to the new one.

For a new account or an existing account without enough billing history to determine its Stratum Billing Variable, the following process is used:

1) The TODRS system attempts to identify the previous account for the address.
2) If the system can identify the previous account and the account's Stratum Category, then it assigns that Stratum to the account.
3) If the system cannot identify the previous account or the account's Stratum Category, then it assigns the default (Unknown) Stratum to the new account.
4) Stratum Category Update:
    i. Few months after a new account is activated or an Unknown Stratum is assigned, the TODRS will update its Stratum based on monthly consumption using the latest billing consumption. The monthly consumption of the new account will be compared to that of the existing accounts within the same Service Class, and the Stratum Category will be determined based on the Stratum assignment of those accounts with similar average monthly consumption level.

Scalar Meter Customers

One or more electric meters measure energy consumption for these accounts. These accounts do not have metering to record the highest demand or interval data. Scalar Meter accounts do not have the ability to report interval demand data or even the highest demand hour for a billing period. The Metered Coincident Demand for these accounts is based solely on load shape derivations.

The TODRS assigns Metered Coincident Demand to each account as follows:

1) TODRS System retrieves standardized load shapes for each account based on its Service Class and Stratum Category pair from the billing cycle that includes the NYCA Peak Hour.
2) If the account did not have billing data during the NYCA peak, then the TODRS assigns an MCD based on unknown strata from table 1

Conventional Demand Accounts without IDR

One or more electric meters measure energy consumption for these accounts. Conventional Demand accounts also have metering that can quantify the maximum hour of demand within a billing period, but not the date or time of occurrence.

The TODRS assigns Metered Coincident Demand to each account as follows:

1) The TODRS retrieves standardized load shapes for each account based on its Service Class and Stratum Category pair from the billing cycle that includes the NYCA summer peak.
   a) If the account did not have billing data during the NYCA peak, then the TODRS assigns an ICAP tag from Table 1, Conventional Demand Default Tags. The tag assignment process for the given account is complete.
2) The system retrieves the load shape derived demand for the NYCA Peak Hour.

   a)The System compares the NYCA Peak Hour Load Shape derived Demand to the Billed Demand and assigns the lesser of the two as the Metered Coincident Demand.

Time-of-Use Accounts without IDR

It is confirmed that TODRS complies with the PSC requirement for VTOU customers. TOU customers have special meters that record on peak and off peak usages and TODRS calculates their hourly data through the use of load shapes. Their shape is adjusted based on their on peak and off peak usages. As long as Forecasting Services receives the correct billing information with the on peak and off peak usages, we can assure that the TODRS continues to ensure that residential customers on a VTOU rate (SC 1, Rate II and Rate III) would have their on peak and off peak information used for NYISO settlement. TODRS is improved for ESCO customers since TOU customers are paying different rates for on peak and off peak usages and TODRS is built to capture those changes. TODRS shall be maintained to continue this function.

The TODRS assigns Metered Coincident Demand(MCD) to each TOU account as described above for Conventional Demand Accounts .

Vintage Interval Meter Accounts

An IDR records the sum of the readings for all connected interval meters every 15 minutes. The sum is stored in the instrument, along with date and time of the period.

A database queries each IDR periodically and the recorded readings are verified, validated, and stored for use during billing.

In addition to the automated recording described above, a field technician reads each meter as part of the routine trip schedule. These readings are also stored in a database for use during billing.

Prior to billing an account, a customer service representative performs a tolerance check between the field meter readings and the sum of the IDR readings.

The tolerance check is necessary to ensure that the recorder accurately measured demand for each meter on the account every 15 minutes for the entire billing period. If the tolerance check passes, then:

Billed Consumption = Sum of the field technician meter readings

Billed Demand = 2 x (Sum of two highest contiguous 15 minute intervals)

If the tolerance check fails, then a service technician inspects the meter in the field. This inspection may include a manual download of the IDR readings. If after inspection, the tolerance check still fails, then the representative enters estimated values for billed consumption and demand.

The TODRS assigns Metered Coincident Demand to each account as follows:

1) The system retrieves the Billed Consumption and Demand for the billing period that includes the NYCA Peak Hour.
2) The system retrieves the IDR data beginning on the first day of the billing period and ending on the last day. The system calculates the IDR total consumption for the billing period during the NYCA Peak Hour.
3) The system performs a tolerance check between the Billed Consumption and the IDR consumption.
   a) If the IDR consumption is ± 5%of Billed Consumption, then
      i) The system assigns the IDR Demand during the NYCA Peak Hour as the Metered Coincident Demand.
   b) If the IDR consumption is not ± 5% of Billed Consumption, then
      i) The system derives the demand during the NYCA Peak Hour using a load shape
      ii) The System compares the NYCA Peak Hour Load Shape derived Demand to the Billed Demand and assigns the lesser of the two as the Metered Coincident Demand.
   c) The TODRS Data Review for missing Peak load during NYCA peak hour
      i) For interval meter accounts that passed the ± 5% tolerance check, but the hourly consumption during the NYCA Peak Hour was at zero:
         (1) An analyst reviews the accounts and attempts to retrieve the billing or interval data.
         (2) If the data is located, then the analyst assigns the Metered Coincident Demand using the method described above.

(3) If the data is not located, then the analyst determines the Coincident Demand based on the consumption pattern during similar historical weather days.

Advance Meter Infrastructure (AMI) Accounts

An AMI meter records interval consumption every 5 or 15 minutes depending on the type of account. The meter readings are read and sent automatically to a data depository from where the TODRS downloads the integrated value over an hour readings during the billing period.

Billing determinants from each account are calculated by a meter management system, sent to the billing system, and then received by the TODRS. The TODRS then applies the load shapes to each account when it receives their billing information.

Approximately two weeks before the first TOL submission of a given month, the TODRS queries the data depository for the accounts billed to assure the latest information is available for the report. The TODRS then performs a tolerance check over a three month period and uses meter management system estimation flags to avoid discarding correct interval data due to bill estimation. The TODRS repeats this process before the last TOL submission for those accounts which interval values continue to be estimated.

Hourly Consumption = Integrated value over an hour of meter readings.

Peak Demand = Maximum value of integrated demand over an hour at the time of the NYCA peak

The TODRS assigns Metered Coincident Demand (MCD) to each account based on their latest Peak Demand received by the time of the MCD calculation.

If the AMI information is not available the TODRS will continue using the load shape methodology.

If the data is not located, then the analyst determines the Coincident Demand based on the consumption pattern during similar historical weather days.

Mixed Metered Accounts

The majority of Con Edison accounts fall into one of the classifications described in the preceding metering classifications.

Mixed Metered Accounts have metering similar to Interval meter, TOD, and Conventional Demand accounts, billed under a single account number.

The metering consists of one or more Mass Market type meters, whose output is recorded by an IDR, and in addition, they have one or more Conventional Demand meters that are not recorded by an IDR.

The TODRS separates the Interval meter readings from the Conventional Demand readings, and calculates Metered Coincident Demand individually for the two parts using the methodology described above. The sum of the two values is the MCD for the account.

Accounts with Economic Development Program Allocations

Accounts in this class receive a power allocation through one of two programs administered by the New York Power Authority (NYPA)

- World Trade Center Economic Recovery Power (WTC)
- Recharge NY (RNY)

Con Edison bills retail customers participating in these programs in accordance with PSC 9 Electric Tariff, Part III, General Rules, Regulations, Section 11, Metering and Billing

Con Edison assigns Metered Coincident Demand to these accounts using the same methodology as described in the tariff. The method is summarized below:

1) The TODRS retrieves the billed energy and demand for the Economic Program and the Load Serving Entity.
2) Based on the type of meter the account is assigned to, the system assigns a Metered Coincident Demand for the Economic Program and the Load Serving Entity as described in the steps above.
3) The system allocates the Metered Coincident Demand to the Economic Program and LSE share using the formula below:

$$MCD_{EP} = \frac{Min(Allocation*_{EP}, BilledDemand_{Total})}{BilledDemand_{Total}} * MCD_{Total}$$

$$MCD_{LSE} = MCD_{Total} - MCD_{EP}$$

Where:

MCD_{Total} = Account Metered Coincident Demand

MCD_{EP} = Economic Program share of the MCD_{Total}

MCD_{LSE} = Load Serving Entity share of the MCD_{Total}

In the case of Recharge NY, the “Allocation” will be the Allocated load that NYPA will be providing to the customer be it only Hydro or Hydro+Market based on customer’s election. NYPA portion of Load Forecast Tag cannot go above the “Allocation” and the remaining amount will be distributed to the account’s other Load Serving Entity (or Entities) proportionally.

NYISO Special Case Resources (SCR) with Generation

Con Edison will add an adjustment to Metered Coincident Demand for NYISO SCR accounts with Generation. These are accounts that have registered to participate in the NYISO SCR program and that may have provided demand reduction during the NYCA peak. The NYISO requires this adjustment in their Market Services Tariff.

Each year the NYISO provides Con Edison with a list of registered SCR accounts that provided demand response during the NYCA peak. This list includes the demand reduction provided by each account.

Con Edison adjusts the Metered Coincident Demand of an SCR account with Generation as follows:

1) The TODRS calculates the Metered Coincident Demand for the account as described in the steps above.
2) For an account without Interval meter, an analyst will then review the account to determine whether it needs an adjustment to include the declared reduction value as reported to the NYISO for the Metered Coincident Demand. The result is the Metered Coincident Demand for the account if no demand reduction had occurred.

NYISO Generator Station Power

Con Edison assigns a value of zero for Metered Coincident Demand to accounts that have registered to participate in the NYISO Generator Station Power program, regardless of their actual demand. The NYISO requires this change in their Market Services Tariff.

The NYISO Load Forecasting Task Force (LFTF) uses the actual Station Power (SP) Metered Coincident Demand when calculating the Adjusted Actual Load. The SP demand is subtract from the Actual Load, and reports the Adjusted Actual Load as “net of SP”.

Con Edison adjusts NYISO SP account Metered Coincident Demand as follows:

1) The TODRS calculates the Metered Coincident Demand for the account as described in the steps above.
2) An analyst submits the total SP Metered Coincident Demand to the LFTF.
3) The TODRS assigns a zero value to each SP account Metered Coincident Demand.

Other Customers

CECONY cannot always determine the Metered Coincident Demand for an account. Some customers may not have sufficient billing data. Others receive service that does not have metering installed. Still others are billed via a non-Customer Care & Billing (CC&B) mechanism.

Examples are coincident-billed accounts are un-metered accounts, street lighting accounts.

Con Edison assigns Coincident Metered Demand for these customer groups using load shapes or other estimates of demand during the NYCA Peak Hour.

Step 2 - Calculate the Zonal Coincident Demand (ZCD) for each account

A Sub-zonal True-up Factor is calculated for all accounts to account for UFE losses.

A Con Edison analyst calculates the Subzone True-up Factor and Zonal Coincident Demand for all accounts using the following formula:

$$TrueUp = \frac{NYISOLoad_{Peak} - LnPGen_{Peak} - \sum_{i=1}^{AllCust}(MCD)}{\sum_{i=1}^{AllCust}(MCD)}$$

$$ZCD = MCD \times (1 + TrueUp)$$

Where:

NYISOLoad = Sum of NYISO reported Load on the NYCA Peak Hour*

LnPGen = Sum of O&R reported Lighting and Station Power Load on Peak HourTotal Load

MCD = Meter Coincident Demand for All Accounts

ZCD = Zonal Coincident Demand for All Account

* Sum of the indicated load for the NYCA Peak Hour calculated for Subzones H, I and J

Step 3 - Calculate the Load Forecast Tag (LFT) for each account

In this step, the NYISO LFTF first calculates the Adjusted Actual Peak Load at the time of the NYCA Peak Hour for each Transmission Owner and municipal electric utility in the NYCA.

The NYISO defines the Adjusted Actual Load in their Market Services Tariff as:

Actual Load adjusted to reflect:

- Load relief measures such as voltage reduction and Load Shedding;
- Load reductions provided by Demand Side Resources;

- Normalized design weather conditions;
- Station Power delivered that is not being self-supplied pursuant to Section 4.24 of the ISO Services Tariff; and
- Adjustments for Special Case Resources and EDRP.

The LFTF then applies a Regional Load Growth Factor (RLGF) to the Adjusted Actual Peak Load to determine the Forecasted Peak Load in each Transmission District and municipal service territory.

Starting May 1, 2016 Con Edison will update the Load Forecast Factor and LFT every month.

CECONY calculates separate Load Forecast True-up Factors for the following account groupings:

- Subzone H
- Subzone I
- Subzone J

$$Forecast\ TrueFactor\ = \frac{Forecast\_\sum_{i=1}^{All} ZCD}{\sum_{i=1}^{All} ZCD}$$

Where:

ZCD = Zonal Coincident Demand for all Accounts**NYCAForecast* = NYISO LFTF New York Control Area Forecasted Peak Load*

* Factor calculated for Subzone H, I, and J separately

The system calculates account Load Forecast Tags using the following formula. The system selects the appropriate Forecast True-up Factor based on the account Subzone:

$$LFT\ = ZCD * (1 + Forecast\ TrueUpFactor\ )$$

Step 4 - Load Forecast Tag Conversion to NYISO LSE Unforced Capacity Requirement

CECONY is required to submit LSE Load Forecasts to the NYISO in accordance with their Market Services Tariff. The NYISO uses the Load Forecast for each LSE to calculate its Minimum Unforced Capacity (UCAP) Requirement using procedures established by their Market Services Tariff.

CECONY will summarize the NYISO UCAP calculations in this section, but the LSE must direct any questions regarding this process to the NYISO.

A Load Serving Entity's Load Forecast is equal to the sum of the Load Forecast Tags for each account assigned to that LSE. To convert the Load Forecast to a UCAP requirement, the NYISO first calculates the Installed Capacity (ICAP) requirement for each LSE.

$$ICAP_{LSE} = LoadForecast_{LSE} * (1 + IRM)$$

Where:

IRM = Installed Reserve Margin

Finally, the NYISO converts the LSE ICAP requirement to its Unforced Capacity (UCAP) requirement.

$$UCAP_{LSE} = ICAP_{LSE} * (1 - EFORd)$$

Where:

EFORd= Effective Forced Outage Rate on Demand

The NYISO will provide LSEs with their Minimum UCAP Requirement prior to the Monthly Auction, allowing ample time to acquire, as necessary, sufficient UCAP for the applicable month.

Zonal Coincident Tag (ZCD) for New Accounts

The methods for assigning ZCD in the preceding sections are applicable to the annual tag calculation process. The process changes slightly when calculating tags for new accounts created after the capability year begins.

Initial Assignment

The system attempts to identify the previous account at the location for the load:

1) If the system can identify the previous account, then it will assign that ZCD to the new account.

2) If the system cannot identify the previous account, then it will determine the ZCD through the following process:
   a) The system assigns a ZCD directly from Table 1 based on the account's Service Class. This tag appears on Table 1 with an "UNKNOWN" Stratum Category.

Re-Assign ZCD

Three months after a new account is activated, the TODRS will establish its Stratum based on monthly consumption in the latest billing. The monthly consumption of the new account will be compared to that of the existing accounts within the same Service Class, and the Stratum will be set based on the accounts with similar average monthly consumption level. Once the Stratum is established, the ZCD will be updated based on the Peer account's ZCD.

LSE Load Forecast Tag Review

During the ICAP annual process CECONY will generate a Zonal Coincident Demands (ZCD) that stays constant throughout the capacity year, but the Load Forecast Tag (LFT) will be updated monthly as the number of accounts in the TD changes. As part of the month LFT re-verification, the System will also create a Monthly Forecast True-up Factor for each zone. ZCD and Forecast True-up Factors are available in the CECONY's internet-based Retail Access Information System (RAIS).

The sum of the LFTs for the ESCO represents a point-in-time estimate of the LSE's Load Forecast for the coming capability year. It is important to note that the monthly ESCO LFT does not include any accounts scheduled to shift ESCO providers between the monthly report periods.

Explanation of Energy Reconciliation

Energy Reconciliation (is the process where the sum of the individual LSE Subzone Load buses is reconciled to the Subzone Metered Load (MLOAD). The total LSE Subzone Load must equal the MLOAD in each hour of every day of the billing month.

The Reconciliation process occurs three separate times for a given billing month. The reconciliations coincides with the NYISO settlement schedule. The NYISO performs Reconciliation prior to the Initial Settlement Invoice and CECONY performs Reconciliation prior to the 4-month and 6-month Settlement Adjustment invoice.

NYISO Energy Reconciliation

Prior to an operating day, each LSE submits a forecast of their load to the NYISO for the subzones where they serve load. The LSE may update these forecasts until 12 PM on the day after the operating day.

CECONY submits Generator and Tie-Line metering data to the NYISO by 12 PM on the day after the operating day. CECONY and generation owners may review and challenge the accuracy of their respective tie-line and generator hourly meter data until approximately 5 days prior to the issuance of a month's initial invoice. The NYISO uses this data to create the MLOAD for the billing month.

The NYISO adds the updated forecasts for each LSE and reconciles the sum of the LSE load to the MLOAD for each hour of the billing month.

CECONY Energy Reconciliation

Reconciliation Schedule

The NYISO Hourly Tie-line, Generator, and LSE Bus Meter Data Review, Revision, and Lock-down schedule begins with the issuance of a month's initial invoice from the NYISO. A summary of the schedule is included in Table 3 - Energy Reconciliation Schedule. A more detailed timeline is available from the NYISO.

After posting the initial invoice, the NYISO opens the 55-day review & correction period for tie-line and generator meter data. CECONY and generation owners may again review and challenge the accuracy of their hourly meter data until 55 days after issuance of the initial invoice.

The NYISO locks the tie-line and generator meter data at the end-of-business on the 55th day after the issuance of a month's initial invoice. At that point, the metering data is no longer subject to challenge.

The NYISO updates the MLOAD with all approved challenges prior to the end-of-business on the 60th day after the issuance of a month's initial invoice. The NYISO then notifies CECONY that they may download sub-zonal loads (MLOAD) and begin submitting LSE bus hourly meter data (TOL) for the month's four-month true-up. After the 60th day, the posted MLOAD will not change. CECONY uses the same MLOAD file to perform the 4-month and 6-month TOL reconciliation.

CECONY downloads customer meter data and creates the TOL file for the four-month true-up using the reconciliation process described in the next section. CECONY must complete the reconciliation and submit the TOL to the NYISO prior to the end-of-business on the 70th day after the issuance of a month's initial invoice. At that time, the NYISO locks the LSE bus hourly meter data and notifies LSEs that they may challenge the accuracy of their LSE bus meter data through written/emailed requests to the NYISO.

If an LSE challenges their hourly bus meter data, then the NYISO will instruct CECONY to review the challenge and submit any TOL revisions prior to the end-of-business on the 90th day after the issuance of a month's initial invoice. At that time, the NYISO posts the LSE bus meter data, including any revisions, to the Decision Support System (DSS) for the 4-month True-up Advisory Invoice.

The NYISO issues the 4-month true-up settlement invoice on the 120th day after the issuance of the month's initial invoice. The next day, the NYISO re-opens the LSE bus hourly meter data. CECONY repeats the energy reconciliation process, and submits the 6-month TOL to the NYISO prior to the end-of-business on the 130th day after the issuance of a month's initial invoice. At that time, the NYISO locks the LSE bus hourly meter data and notifies LSEs that they may challenge the accuracy of their LSE bus meter data through written/emailed requests to the NYISO.

If an LSE challenges their hourly bus meter data, then the NYISO will instruct CECONY to review the challenge and submit any TOL revisions prior to the end-of-business on the 145th day after the issuance of a month's initial invoice. At that time, the NYISO posts the LSE bus meter data, including any revisions, to the Decision Support System (DSS) for the 6-month True-up Advisory Invoice. The LSE bus meter data is locked and no longer subject to revision.

Metered Data Hourly Load Assignment

The first step of the CECONY Energy Reconciliation process is to determine an hourly load value for each hour of each day to every customer account in the CECONY TD.

1) Each day, the TODRS records the Temperature Variable and Day-Type for the previous day and stores the data for use during load shape selection.
2) The system searches the customer billing systems to identify bills created on the previous day.
3) The system extracts billing data from the identified accounts for use in hourly load value determination, subzone assignment, and energy reconciliation.
    a) Billed Consumption
    b) Billed Demand
    c) TOU data
    d) Bill Start and End Date
    e) Load Serving Entity
4) The system assigns hourly values for the billing period.
    a) For accounts with an interval meter, the TODRS retrieves IDR hourly data (IDR consumption) for the billing period.
        i) Type 2 IDR is typically used to record data on accounts receiving service under the CECONY Tariff Mandatory Time-of-Day rates.
        ii) The system performs a tolerance check between the Billed Consumption and the IDR consumption.
            (1) If the IDR consumption is ± 5% of Billed Consumption, then
                (a) The system assigns hourly values using the IDR data.
            (2) If the IDR consumption is not ± 5% of Billed Consumption, then
                (a) The system assigns hourly values using the load shape methodology described in the Explanation of Load Shapes section of this guide.
    b) For accounts without an interval meter, the system assigns hourly values using the load shape methodology.
5) The system aggregates the hourly load values for each customer account based on the billing data parameters listed below, and then stores the aggregate data for use during reconciliation to MLOAD.
    a) Date
    b) Load Serving Entity NYISO Load Bus Point ID (PTID)
    c) NYISO Subzone
6) The TODRS repeats Steps 1 – 4 for each calendar day.

CECONY must upload TOL reports for a calendar month, but CECONY does not read individual account meters on a calendar month schedule. CECONY reads and bills customer accounts on a Trip Schedule. For example, here are three sequential meter read dates for Trip 7 accounts:

Trip 7 January 10

February 11

March 12

Following the February 11 meter reading, the TODRS assigns hourly load data for the billing cycle beginning January 10 and ending February 11. This billing cycle includes data for both the January and February TOL. The billing period from February 11 to March 12 includes hourly load data for the remaining days in February, and for the first 12 days of March. This bill is posted in the system after March 12.

Reconciliation to MLOAD

In this section, the TODRS collects the hourly load data for each LSE in a subzone, aggregates the LSE data for each hour, and reconciles it to MLOAD such that the sum of the LSE hourly data in each hour is equal to the MLOAD in the same hour.

In accordance with the NYISO Market Services Tariff, CECONY does not add losses or unaccounted for energy to Station Power (SP) load during Energy Reconciliation. CECONY subtracts the SP from the customer meter data and the MLOAD prior to reconciliation, and then adds it back to both after the reconciliation. This process is outlined in the steps below.

1) The TODRS retrieves hourly load data for each calendar day in the given month. Each data entry consists of the following:
   a) Date
   b) NYISO Subzone
   c) Load Serving Entity NYISO Load Bus Point ID (PTID)
   d) Sum of the customer load assigned to the PTID in each hour of the day.
2) Using the SP hourly load data, the system calculates the total load for all SP buses in the subzone for each hour of the day.
3) Using the NYISO Subzone Load (MLOAD) and the Total SP hourly load, the TODRS calculates the Adjusted MLOAD.
   a) The system calculates Adjusted MLOAD as the difference between MLOAD and SP load in each hour of the month.
      i) $AdjMLOAD_1 = MLOAD_1 - SP_1$
4) Using the hourly Adjusted MLOAD and the sum of the hourly load data for non-SP load, the system calculates the TOL hourly load for each LSE.

a) $$TOLLoad_{LSE\_A} = \frac{AdjustedMILOAD}{\sum LSELoad} * LSELoad_{LSE\_A}$$

b) Where:

i) $TOLLoad_{LSE\_A}$ = reported TOL load for LSE A in one hour

ii) $LSELoad_{LSE\_A}$ = Sum of customer load assigned to LSE A in one hour

iii) $\Sigma LSELoad$ = Sum of customer load assigned to all LSE's in one hour

c) The TODRS saves the TOL Hourly Load data for each LSE in an output file. This file is the TOL, but it does not yet have the NYISO SP load.

5) The TODRS then adds the data lines for NYISO SP load to the TOL hourly load data for each Load Serving Entity. The sum of the LSE TOL data and the NYISO SP load in each hour is equal to the MLOAD in the same hour.

6) A CECONY analyst then reviews the completed TOL and MLOAD files, and validates the reconciliation. The analyst corrects any identified reconciliation errors.

7) Finally, the analyst uploads the TOL to the NYISO Settlement Data Exchange (SDX).

a) Upon successful upload, the SDX provides a response file confirming successful upload.

b) The analyst downloads a TOL summary validation from SDX and forwards the results to the NYISO.

8) The TOL is now ready for review by the LSE in accordance with the Reconciliation Schedule outlined in the preceding sections.

Default Load Forecast Tags

The following Default Load Forecast Tag Tables reflect the new changes in load shapes, service classes, and strata that became effective in September 2014. Any changes made to Tables 1, 2, and 3 are summarized below:
Please Note: All Forecasted Default ICAP Tags are based on May 1, 2025 True-up Factor.

Table 1

Default Load Forecast Tags
Capability Year beginning: May 1, 2025

		Zone H		Zone I		Zone J	
SC	Strata	ZCD (KW)	ICAP Tag (KW)	ZCD (KW)	ICAP Tag (KW)	ZCD (KW)	ICAP Tag (KW)
1	Unknown	2.319	2.74	1.92	2.152	1.165	1.259
2	Unknown	1.019	1.204	1.022	1.145	1.036	1.119
5	Unknown	13.05	15.416	13.05	14.626	1352.8	1461.943
6	Unknown	0.053	0.063	0.027	0.031	0.009	0.01
7	Unknown	1.663	1.965	1.512	1.695	1.227	1.326
8	Unknown	57.597	68.038	146.06	163.703	224.636	242.759
9	Unknown	30.449	35.968	32.026	35.894	35.232	38.074
12	Unknown	8.706	10.284	36.201	40.573	129.513	139.963
51	Unknown	5.946	7.024	7.441	8.34	7.374	7.969
62	Unknown	0.639	0.755	0.667	0.747	1.368	1.478
65	Unknown	940.794	1111.332	922.981	1034.468	117.068	126.513
66	Unknown	1.124	1.328	2.737	3.068	2.737	2.958
68	Unknown	21.818	25.773	170.386	190.967	455.583	492.339
69	Unknown	48.106	56.826	80.236	89.928	244.537	264.266
80	Unknown	35.519	41.958	35.519	39.81	942.065	1018.07
82	Unknown	282.763	334.02	282.763	316.918	282.763	305.576
85	Unknown	0.649	0.767	0.649	0.728	828.562	895.411
91	Unknown	64.54	76.239	64.54	72.336	108.282	117.018
93	Unknown	53.611	63.329	53.611	60.087	53.611	57.936
98	Unknown	2742.382	3239.494	2742.382	3073.634	4890.257	5284.802

Table 2	
Load Forecast Tag Calculation Data Capability Year beginning: May 1, 2025	
Subzone True-up Factor	
Subzone H	
All Accounts	-0.05209
Subzone I	
All Accounts	0.02334
Subzone J	
All Accounts	0.05920
Forecast True-up Factor (May 1, 2025)	
All Accounts - Subzone H	0.18127
All Accounts - Subzone I	0.12079
All Accounts - Subzone J	0.08068
NYCA Peak Hour Ending	2024-07-08 18:00
NYCA Forecast (MW)	
CECONY Transmission District – Subzone H, I, and J	12,433.2
CECONY Hudson Valley – Subzone G, H, I, and J Locality	12,534.9
CECONY In-City – Subzone J Locality	11,004.6

Table 3 - Energy Reconciliation Schedule	
Days after Initial Invoice	Action
0	Initial invoice posted
55	Generator and tie-line challenge deadline
60	Generator and tie-line locked MLOAD posted
70	4 month TOL submittal deadline 4 month TOL review and challenge period opens
90	4 month TOL data locked Posted to billing data for 4 month True-up Advisory Invoice
120	4 month true-up invoice posted 6 month TOL submittal period opens
130	6 month TOL submittal deadline 6 month TOL review and challenge period opens
145	6 month TOL challenge deadline
150	6 month TOL data locked Posted to billing data for 6 month True-up Advisory Invoice
180	6 month true-up invoice posted

Glossary

Adjusted Actual Load	Actual Load in the NYCA adjusted to reflect: • Load relief measures such as voltage reduction and Load Shedding; • Load reductions provided by Demand Side Resources; • normalized design weather conditions; • Station Power delivered that is not being self supplied pursuant to Section 4.24 of the ISO Services Tariff; and • adjustments for Special Case Resources and EDRP.
CAP	Computer application that retrieves customer billing data to perform routine calculations and data reporting in support of Load Forecast Tag calculations
Capability Year	NYISO Capacity Capability Year - Period from May 1 through April 30.
CECONY	Consolidated Edison Company of New York, Inc.
Day-Type	An indicator of the specific characteristics of a load based on the day of the week
EDRP	NYISO Emergency Demand Response Program

Glossary

Energy Supply Company	A non-utility business deemed eligible by the New York State PSC and certified by CECONY to sell electricity to end users within the CECONY TD
ESCO	Energy Supply Company
IDR	Interval Data Recorder
LFT	Load Forecast Tag
LFTF	NYISO Load Forecasting Task Force
Load Serving Entity	A company supplying Energy, Capacity and/or Ancillary Services to retail customers located within the New York Control Area (NYCA)
Load Shape	A series of 24 time ordered values representing the hourly demand of a customer, or group of customers
LSE	Load Serving Entity
MCD	Metered Coincident Demand
Metered Coincident Demand	An individual customer's demand as measured or estimated during the NYISO Adjusted Actual Peak Hour
MLOAD	NYISO Subzone Load
NYCA	New York Control Area
NYCA Peak Hour	Date and time of the NYCA Adjusted Actual Peak Load
NYISO	New York Independent System Operator An independent management organization, authorized by the Federal Energy Regulatory Commission, operating the New York Control Area bulk electric transmission system
PSC	New York State Public Service Commission
RAIS	CECONY Retail Access Information System
RECON	Computer application that retrieves customer billing data to perform routine calculations and data reporting in support of Energy Reconciliation.
SCD	Subzone Coincident Demand
SCR	NYISO Special Case Resource

Glossary

Service Class	SC - A group of customer types with similar load characteristics, defined by the Con Edison tariff.
SP	Station Power
Station Power	Generators must register with the NYISO and meet the requirements of their Market Services Tariff to participate in the Station Power program. Station Power is energy used at a generating station to produce electricity.
Stratum Category	A subgroup of a Service Class. It is a measure of the size of a customer as defined by the Stratum Billing Variable.
Subzone Coincident Demand	An estimate of an individual customer's contribution to the total Subzone Load during the NYISO Adjusted Actual Peak Hour
Subzone Load	NYISO calculated subzone load. Equal to the net of the Tie-line and Generator meter readings in the zone minus NYISO allocated Transmission Losses.
TD	CECONY Transmission District consisting of the following NYISO subzones: • CONED MILLWOOD • CONED DUNWOODIE • CONED NYCITY
Temperature Reference	An indicator of the specific characteristics of a load based on the daily temperature, weighted to include the effect of the previous two days temperature. $TR = 0.7 * T_3 + 0.2 * T_2 + 0.1 * T_1$
TO	Transmission Owner
TODRS	Transmission Owner Data Reporting System
TOL	Transmission Owner Load report
UFE	Unaccounted for Energy Equal to Subzone Load minus SP Load minus total customer metered load
VTOU	Voluntary Time of Use accounts. Time-of-Use program encourages customers to reduce electricity use during peak hours. Under the program, peak and off-peak rates apply for electricity use depending on when it is used.