BTM:NG Initiative: Participation in NYISO's Capacity Market

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Joint Meeting of Installed Capacity, Market Issues and Price Responsive Load Working Groups
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DRAFT – FOR DISCUSSION PURPOSES ONLY

Topics

- **BTM:NG Resource Capacity Market Participation**
  - ***Key Capacity Market Concepts for BTM:NG Resources***
    - **Net ICAP Calculation**
    - **Net UCAP Calculation**
  - ***BTM:NG Resource Net ICAP and Net UCAP Examples***
  - ***Resource Availability Impacts on Net UCAP and Net ICAP***
  - ***CRIS Concepts and Examples***
  - ***BTM:NG Resource and the ICAP Load Forecast***
- **Next Steps**
- **Appendices**
  - ***Appendix A: Supporting Details and Examples***
  - ***Appendix B: Comparative Examples***

BTM:NG Resource Participation in the Capacity Market

- The NYISO has revised its Net ICAP calculation proposal and clarified the Net UCAP calculation for BTM:NG resources
- Net UCAP will be calculated using separate derating factors - one will apply to the BTM:NG resource's generator assets and another to its Load
  - *The derating factor for the BTM:NG resource's generator will be based on generator availability*
  - *The derating factor for the BTM:NG Resource's Load will be consistent with the current derating that translates LSE Load from ICAP to UCAP*
- Increased load will not contribute to the generator derating factor

Net ICAP

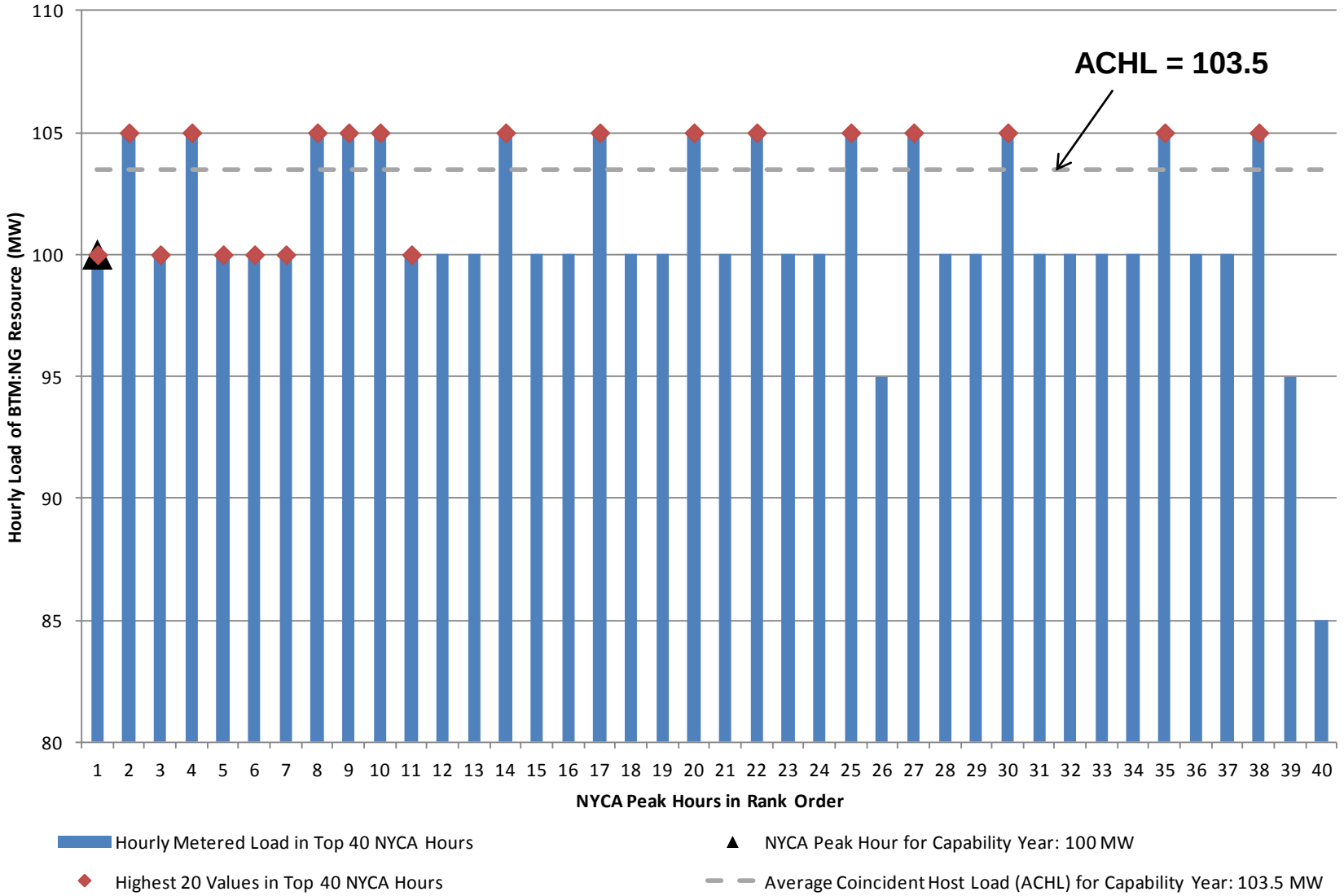
Net ICAP is the Installed Capacity of a BTM:NG resource that is qualified to participate in the NYISO's Capacity Market

- ***Consists of a generator component and a load component***

Elements of the Load Component: Average Coincident Host Load

- ACHL = Average of the BTM:NG resource's top 20 Load hours coincident with the top 40 NYCA Peak Load hours of the Prior Capability Year

Illustration of Peak Hour for NYCA Load Forecast and Hours for Average Coincident Host Load of the BTM:NG Resource



Elements of Load Component: Adjustments to ACHL

- ***WNF:* *Weather Normalization Factor*** **– a factor derived from the current weather adjustment used for the peak-hour load in the LSE Minimum ICAP Requirement calculation**
- ***RLGF:* *Regional Load Growth Factor*** **– the Regional Load Growth Factor currently used in the LSE Minimum ICAP Requirement calculation**
- ***IRM:* *Installed Reserve Margin*** **– Capability Year Installed Reserve Margin established by the NYSRC**

Final Load Component of Net ICAP: Adjusted Host Load

AHL = ACHL * (1 + WNF) * (1 + RLGF) * (1 + IRM)

- **AHL = Adjusted Host Load accounts for the portion of the BTM:NG generator that is reserved to supply the host Load**

Elements of the Generator Component: DMGC

- DMGC: *Demonstrated Maximum Gross Capability* - A measure of the gross output of the generator(s) of the BTM:NG resource
  - *Similar to a DMNC*

Elements of Generator Component: Limits on DMGC

- **The DMGC is the basis for determining the amount of generator capability of the BTM:NG resource**
- **The generator capability may be limited due to the BTM:NG resource's injection limit or CRIS**
  - ***AHL + Injection Limit:* A BTM:NG resource first serves its host Load, and may only inject up to an amount specified in its interconnection agreement**
  - ***AHL + $CRIS_{CP}$:* A BTM:NG resource first serves its host Load, and may only sell capacity up to its CRIS level for the Capability Period (CP)**

Final Generator Component of Net ICAP:
Adjusted DMGC

Adj. $DMGC_m$ =

Min($DMGC_m$, AHL + Injection Limit, AHL + $CRIS_{CP}$)

- **Adjusted $DMGC_m$ is the BTM:NG resource's maximum generation available to the Capacity Market in a month**
  - ***Modeled after CRIS-adjusted DMNC***

Net ICAP Calculation

$$\text{Net ICAP} = \text{Adj. DMGC}_m - \text{AHL}$$

Net ICAP is the Installed Capacity of a BTM:NG resource that is qualified in the NYISO's Capacity Market

Net UCAP

Net UCAP is the Unforced Capacity of a BTM:NG resource that is available for sale in the NYISO's Capacity Market

Elements of Net UCAP: Generator Derating

(Adj. $DMGC_m$ * (1-EFORd))

- ***Adj. $DMGC_m$:*** **Adjusted DMGC is the BTM:NG resource's maximum generation available to the Capacity Market, as calculated for Net ICAP**
- ***EFORd:*** **Equivalent Demand Forced Outage Rate – same calculation as performed for Generators**

Elements of Net UCAP: Load Derating

$$(AHL * (1 - NYCA\ TF_{CP}))$$

- ***AHL:*** **Adjusted Host Load accounts for the portion of the BTM:NG generator that is reserved to supply the host Load, as calculated for Net ICAP**
- ***NYCA TF:*** **Translation Factor used to convert from the NYCA Minimum Installed Capacity Requirement to the NYCA Minimum Unforced Capacity Requirement for the upcoming Capability Period. *See* ICAP Manual Section 2.5 (Translation Factor)**

Net UCAP Calculation

Net UCAP =

(Adj. $DMGC_m$ * (1-EFORd)) – (AHL * (1 – $NYCA\ TF_{CP}$))

Net UCAP is the Unforced Capacity of a BTM:NG resource that is available for sale in the NYISO's Capacity Market

Examples for Net ICAP and Net UCAP

Hypothetical BTM:NG Resource

- **The hypothetical BTM:NG resource used for the numerical examples has the following characteristics:**
  - ***An existing industrial facility with a generator on site that has historically served the facility's load***
  - ***Facility has generation greater than its host load***
  - ***Facility has an existing two-party interconnection agreement with its Transmission Owner and has completed the NYISO's Deliverability Study***
  - ***Facility may or may not be selling excess energy to the distribution utility through a retail buy-back tariff***
  - ***Obtained CRIS through a Class Year Deliverability Study***
    - **For purposes of these examples, the facility failed to utilize the grandfathering rule or proposed Transition Rule before the transition period expired**

Hypothetical BTM:NG Resource, cont'd

- **One generation unit at the facility (150 MW nameplate)**
  - ***Configuration Option 1: Generator registered as a single unit (PTID)***
- **Load**
  - ***Electrically interconnected load that is smaller than the capability of the generator***
- **Injection Limit (75 MW)**
  - ***Established in Interconnection Agreement with the Transmission Owner***
- **Initial Summer CRIS (50 MW)**
  - ***As determined through a Class Year Deliverability Study***

Final Load Component of Net ICAP: Adjusted Host Load

AHL = ACHL * (1 + WNF) * (1 + RLGF) * (1 + IRM)

- **AHL = Adjusted Host Load accounts for the portion of the BTM:NG resource that is reserved to supply the host Load**
- **AHL = 103.5 * (1+.02) * (1+.01) * (1+.17)**
- **AHL = 103.5 * 1.02 * 1.01 * 1.17**
- **AHL = 124.7 MW**

Final Generator Component of Net ICAP: Adjusted DMGC

Adj. DMGC =

Min($DMGC_m$, AHL + Injection Limit, AHL + $CRIS_{CP}$)

- **Adj. $DMGC_m$ = Adjusted DMGC is the BTM:NG resource's maximum generation available to the Capacity Market**
- **Adj. $DMGC_m$ = Min(149, 124.7 + 75, 124.7 + 50)**
- **Adj. $DMGC_m$ = Min(149, 199.7, 174.7)**
- **Adj. $DMGC_m$ = 149 MW**

Net ICAP Calculation Example

Net ICAP = Adj. $DMGC_m$ – AHL

- Net ICAP = 149 - 124.7
- Net ICAP = 24.3 MW

Net UCAP Calculation Example

Net UCAP =

(Adj. $DMGC_m$ * (1 - EFORd)) – (AHL * (1 – NYCA TF_{CP}))

- **Net UCAP = (149 * (1 – .085)) – (124.7 * (1 - .09))**
- **Net UCAP = (136.3 – 113.5)**
- **Net UCAP = 22.8 MW**

Resource Availability Impacts on Net UCAP and Net ICAP

A BTM:NG resource's Net UCAP and Net ICAP will be evaluated each Capability Period based on its annual AHL and seasonal generator test

Impact of Resource Availability on Net UCAP

- If the Net UCAP of a BTM:NG resource is negative in a Capability Period, Net UCAP will be set to zero
  - *The BTM:NG resource remains qualified to participate in NYISO's markets*
  - *The NYISO shall notify the MMU each Capability Period if a BTM:NG resource's Net UCAP is negative*
- If the calculation of Net UCAP of a BTM:NG resource exceeds its Net ICAP, the Net UCAP will be set equal to the Net ICAP (See Appendix A)

Impact of Resource Availability on Net ICAP

- **If the Net ICAP of a BTM:NG resource is negative in a Capability Period, the BTM:NG resource is not qualified to participate in the NYISO's Capacity market as a BTM:NG resource**
  - ***Where applicable, the CRIS set and reset period for the BTM:NG resource will terminate with the first Capability Period in which the Net ICAP is negative (to be discussed in detail later in this presentation)***

CRIS Concepts and Examples

Topics to be Covered in CRIS Concepts and Examples

- How a Generator May Obtain CRIS
- CRIS for a BTM:NG Resource
- Data Required for Initial CRIS of a BTM:NG resource
- How CRIS levels are set for BTM:NG resources
  - *For a BTM:NG resource that obtained CRIS through a Class Year Deliverability Study*
    - Initial CRIS
    - Final Summer CRIS
  - *For a BTM:NG resource that obtained CRIS through the existing Grandfathering rule or the proposed Transition Rule*
    - Initial CRIS
    - Final Summer CRIS
- Early Termination of the Five-year Set and Reset Period
  - *For a BTM:NG resource that obtained CRIS through a Class Year Deliverability Study*
  - *For a BTM:NG resource that obtained CRIS through the existing Grandfathering rule or the proposed Transition Rule*

How a Generator May Obtain CRIS

- **Grandfathered CRIS**
  - ***Existing Generators that meet eligibility requirements under existing grandfathering rules outlined in Section 25.9.3.1 of the OATT can acquire CRIS through a five-year CRIS set and reset period***
- **Proposed Transition Rule**
  - ***Existing Generators (post CY 2007) can acquire CRIS through a five-year CRIS set and reset period, provided they have remained in operation and have an Interconnection Agreement that has not been terminated***
- **Class Year Deliverability Study**
  - ***As of a date certain, the opportunity to acquire CRIS through the current grandfathering rule or the proposed Transition Rule will end***
  - ***As of that date, all Generators, including BTM:NG resources without CRIS and desiring to sell capacity in the NYISO market will be subject to a Class Year Deliverability Study, regardless of their how they are interconnected***

CRIS for a BTM:NG Resource

- **A BTM:NG resource acquiring CRIS through the existing Grandfathering Rule, the Proposed Transition Rule, or through a CY Deliverability Study may seek CRIS up to the Net ICAP or Estimated Net ICAP value (Initial CRIS)***
  - ***When meter data is available for both the Load and the generator of the BTM:NG resource, the Initial CRIS that can be requested is limited to demonstrated Net ICAP***
  - ***When meter data is not available for either the Load or the generator of the BTM:NG resource, the Initial CRIS that can be requested is limited to Estimated Net ICAP***

**** For determining CRIS, Net ICAP excludes the AHL + CRIS component of the Adj. $DMGC_m$ calculation***

Data Required for Initial CRIS for a BTM:NG Resource

- **Load Data**
  - ***For an existing load where appropriate metered load data is available, meter data will be used in the calculation of the ACHL***
  - ***For a new load or a load without appropriate metered load data, an estimated coincident Summer peak load will be used in place of the ACHL in the calculation of the AHL***
    - **Documentation to support the estimated load will be required**
- **Generator Data**
  - ***BTM:NG resources with existing generators will be required to perform a DMGC test(s)***
  - ***When a new generator is being installed for a BTM:NG resource, the lesser of the nameplate minus the AHL or the injection limit at the interconnection with the Transmission Owner's asset will be substituted for the DMGC***
    - **A DMGC test will be required for participation in the Capacity Market**

CRIS Concepts and Examples

BTM:NG Resource obtains CRIS through a Class Year Deliverability Study

Determination of Initial CRIS Levels for a BTM:NG Resource that Obtained CRIS through CY Deliverability Study

- The requested Initial Summer CRIS will be evaluated in the CY Deliverability Study
- Initial Summer CRIS will be the MW value determined to be deliverable, or for which the BTM:NG agreed to pay for System Deliverability Upgrades
- Initial Summer CRIS shall act as a cap through the five-year CRIS set and reset period and for the Final Summer CRIS level
- Initial Winter CRIS will equal the temperature-adjusted Initial Summer CRIS value, based on the generator's temperature curve
  - *Each year, the Winter CRIS will equal the temperature-adjusted Summer CRIS*

Final Summer CRIS for a BTM:NG Resource that Obtained CRIS through CY Deliverability Study

- **Final Summer CRIS level will be determined after a five-year CRIS set and reset period**
  - ***The five-year CRIS set and reset period begins with the first Summer Capability Period, following receipt of Initial CRIS, for which the BTM:NG resource's Net ICAP calculation incorporates a demonstrated ACHL***
    - **A demonstrated ACHL is calculated with meter data collected from the Prior Capability Year while the associated generator participated in the NYISO's markets as a BTM:NG resource**
- **During the five-year CRIS set and reset period, Summer CRIS will equal the Initial Summer CRIS found deliverable in the CY Deliverability Study**
- **Final Summer CRIS will be the highest Summer Net ICAP value determined for any year in the five-year CRIS set and reset period**
  - ***Initial Summer CRIS shall not be included in the determination of Final Summer CRIS***
  - ***Final Summer CRIS shall not exceed the deliverable MW of the BTM:NG resource as determined by the CY Deliverability Study***

Example 1 of Final Summer CRIS for BTM:NG w/CRIS from CY Deliverability Study

	Initial CRIS	Five-Year CRIS Set and Reset Period				
CRIS Calculation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Initial CRIS/CRIS from Previous Year	50	50	50	50	50	50
Net ICAP	24.3	11.4	34.5	3	41.5	41.5
Summer CRIS	50	50	50	50	50	50

Final Summer CRIS:	41.5

- **Initial Summer CRIS set at 50 MW after completion of a CY Deliverability Study**
- **Net ICAP over five-year CRIS set and reset period does not exceed Initial Summer CRIS**
- **Final Summer CRIS is set at the highest Net ICAP during the five-year CRIS set and reset period (41.5), not to exceed the Initial Summer CRIS**
  - ***Scenario illustrating early termination of the five-year CRIS set and reset period will be discussed later in the presentation***

Example 2 of Final Summer CRIS for BTM:NG w/CRIS from CY Deliverability Study

	Initial CRIS	Five-Year CRIS Set and Reset Period				
CRIS Calculation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Initial CRIS/CRIS from Previous Year	50	50	50	50	50	50
Net ICAP	24.3	11.4	34.5	3	51.5	41.5
Summer CRIS	50	50	50	50	50	50

Final Summer CRIS:	50

- **Initial Summer CRIS set at 50 MW after completion of a CY Deliverability Study**
- **In this scenario, Net ICAP in Year 5 exceeds Initial Summer CRIS**
- **Final Summer CRIS is set at the highest Net ICAP during the five-year CRIS set and reset period, capped at Initial Summer CRIS (50)**
  - ***Scenario illustrating early termination of the five-year CRIS set and reset period will be discussed later in the presentation***

CRIS Concepts and Examples

BTM:NG Resource obtains CRIS through existing Grandfathering Rule or Proposed Transition Rule

Determination of Initial CRIS Levels for a BTM:NG Resource that Obtained CRIS through Existing Grandfathering Rules or Proposed Transition Rule

- Initial Summer CRIS will be derived from the Net ICAP or Estimated Net ICAP
- Initial Winter CRIS will equal the temperature-adjusted Initial Summer CRIS value, based on the generator's temperature curve
  - *Each year, the Winter CRIS will equal the temperature-adjusted Summer CRIS*

Final Summer CRIS Level for a BTM:NG Resource that Obtained CRIS through Existing Grandfathering Rules or Proposed Transition Rule

- **Final Summer CRIS level will be determined after a five-year CRIS set and reset period**
  - ***The five-year CRIS set and reset period begins with the first Summer Capability Period, following receipt of Initial CRIS, for which the BTM:NG resource's Net ICAP calculation incorporates a demonstrated ACHL***
    - **A demonstrated ACHL is calculated with meter data collected from the Prior Capability Year while the associated generator participated in the NYISO's markets as a BTM:NG resource**
- **During the five-year CRIS set and reset period, Summer CRIS will be set and reset to highest Net ICAP measured for the Summer Capability Period**
- **Final Summer CRIS will be the highest Summer Net ICAP value determined for any year in the five-year CRIS set and reset period**
  - ***Initial Summer CRIS shall not be included in the determination of Final Summer CRIS***

Example 1 of Final Summer CRIS for BTM:NG Resource w/CRIS from Grandfathering or Proposed Transition Rule

	Initial CRIS	Five-Year CRIS Set and Reset Period				
CRIS Calculation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Initial CRIS/CRIS from Previous Year	50	50	50	50	50	50
Net ICAP	24.3	11.4	34.5	3	41.5	41.5
Summer CRIS	50	50	50	50	50	50

Final Summer CRIS:	41.5

- **Initial Summer CRIS set at 50 MW**
- **Net ICAP over five-year CRIS set and reset period does not exceed Initial Summer CRIS**
- **Final Summer CRIS is set at the highest Net ICAP during the five-year CRIS set and reset period (41.5)**
  - ***Scenario illustrating early termination of the five-year CRIS set and reset period will be discussed later in the presentation***

Example 2 of Final Summer CRIS for BTM:NG Resource w/CRIS from Grandfathering or Proposed Transition Rule

	Initial CRIS	Five-Year CRIS Set and Reset Period				
CRIS Calculation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Initial CRIS/CRIS from Previous Year	50	50	50	50	50	51.5
Net ICAP	24.3	11.4	34.5	3	51.5	41.5
Summer CRIS	50	50	50	50	51.5	51.5

Final Summer CRIS:	51.5

- **Initial Summer CRIS set at 50 MW**
- **In this scenario, Net ICAP in Year 5 exceeds Initial Summer CRIS**
- **Final Summer CRIS is set at the highest Net ICAP during the five-year CRIS set and reset period, 51.5 MW**
  - ***There is no cap on the Final Summer CRIS for BTM:NG resources eligible for the existing Grandfathering or Proposed Transition Rule***
  - ***Scenario illustrating early termination of the five-year CRIS set and reset period will be discussed later in the presentation***

CRIS Concepts and Examples

Early Termination

Early Termination of the Five-Year CRIS Set and Reset Period for a BTM:NG Resource

- The five-year CRIS set and reset period shall terminate early, before the close of year five, if and when the BTM:NG resource fails to qualify as a BTM:NG resource in the Capacity Market
- Following an early termination of the five-year CRIS set and reset period:
  - *A Final Summer CRIS value shall be determined in a manner consistent with the calculation method used for Final Summer CRIS if the full five-year period elapsed*
    - Available data from the five-year CRIS set and reset period up to the early termination will be used

Example of Early Termination of the Five-Year CRIS Set and Reset Period for a BTM:NG Resource that Obtained CRIS through a CY Deliverability Study

Early Termination?	n/a	N	N	Y	Y	Y
	Initial CRIS	Five-Year CRIS Set and Reset Period				
CRIS Calculation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Initial CRIS/CRIS from Previous Year	50	50	50	50	34.5	34.5
Net ICAP	24.3	11.4	34.5	-0.1	n/a	n/a
Summer CRIS	50	50	50	34.5	34.5	34.5

Final Summer CRIS:	34.5

- **BTM:NG resource received Initial CRIS of 50 MW through CY Deliverability Study**
- **In Year 4, which is third year of the five-year CRIS set and reset period, the BTM:NG resource has a negative Net ICAP, which terminates its qualification to participate as a BTM:NG resource in the Capacity Market**
- **Final Summer CRIS is set at the highest Net ICAP available prior termination of its participation as a BTM:NG resource (34.5 MW)**
  - ***Because the BTM:NG received its CRIS through a CY Deliverability Study, the Final CRIS level may not exceed Initial CRIS***

Example of Early Termination of the Five-Year CRIS Set and Reset Period for a BTM:NG Resource that Obtained CRIS through existing Grandfathering or Proposed Transition Rule

Early Termination?	n/a	N	N	N	N	Y
	Initial CRIS	Five-Year CRIS Set and Reset Period				
CRIS Calculation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Initial CRIS/CRIS from Previous Year	50	50	50	50	34.5	51.5
Net ICAP	24.3	11.4	34.5	3	51.5	n/a
Summer CRIS	50	50	50	34.5	51.5	51.5

Final Summer CRIS:	51.5

- **BTM:NG resource received Initial CRIS of 50 MW through existing Grandfathering or Proposed Transition Rule**
- **In Year 6, which is the fifth year of the five-year CRIS set and reset period, the BTM:NG resource elects to terminate its participation as a BTM:NG resource**
- **Final Summer CRIS is set at the highest Net ICAP available prior to termination of its participation as a BTM:NG resource (51.5 MW)**
  - ***Because the BTM:NG received its through the existing Grandfathering rule or the proposed Transition rule, the Final CRIS level may exceed Initial CRIS***

BTM:NG Resources and The ICAP Load Forecast

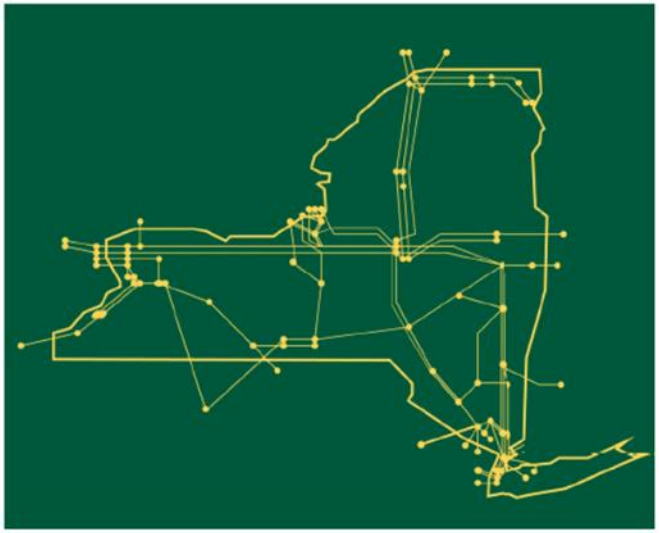
Treatment of BTM:NG Resources in the ICAP Load Forecast

- **The NYISO recognizes that the Load of the BTM:NG resource may be supplied from the distribution system from time to time (*e.g.*, when the BTM:NG resource is not available due to maintenance or outage, or when the Load exceeds the capability or availability of the BTM:NG generation resource)**
- **If the Load of the BTM:NG resource is served by the distribution system coincident with the peak hour used to determine the ICAP Load Forecast, it may overstate the Load requirement of LSEs**
  - ***If the BTM:NG resource is a qualified Installed Capacity supplier, the Load will be subtracted from the NYCA/Locality peak Load because the BTM:NG resource is responsible for meeting the capacity requirement of its host Load***
  - ***If the BTM:NG resource is not an Installed Capacity supplier, the Load of the BTM:NG resource coincident with the peak hour will continue to be included in the ICAP Load Forecast because the BTM:NG resource is not self-supplying capacity to its host Load***

Next Steps

- **September 3: Joint MIWG/ICAPWG**
  - ***Presentation of Examples for Energy Market Concepts***
- **September 4: Tentative Joint ICAPWG/MIWG to address any open issues based on feedback from presentation of numerical examples**
- **September 16: Presentation to BIC for Concept Approval**

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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Appendices

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    - **Example of Estimated Net ICAP Calculation with Estimated Data**
- **Appendix B: Comparative Examples**
  - ***Adjusted Host Load***

Appendix A: Supporting Details and Examples

Example: Negative Net UCAP

Net UCAP	Year 2
Adjusted DMGC	144
Gen EFORd	18.59%
Gen UCAP	117.2
Adjusted Host Load for BTM:NG Resource	132.6
ICAP/UCAP Translation %	9%
Load UCAP	120.7
Net UCAP	0
Net ICAP	11.4

- **Net UCAP = Max(0, Min(Gen UCAP – Load UCAP, Net ICAP))**
- **Net UCAP = Max(0, Min(117.2 – 120.7, 11.4))**
- **Net UCAP = Max(0, Min(-3.5, 11.4))**
- **Net UCAP = Max(0, -3.5)**
- **Net UCAP = 0**

Example: Net UCAP Greater than Net ICAP

Net UCAP	
Adjusted DMNC	150
Gen EFORd	5.75%
Gen UCAP	141.4
Adjusted Host Load	108.5
ICAP/UCAP Translation %	9%
Load UCAP	98.7
Net UCAP	41.5
Net ICAP	41.5

- **Net UCAP = Max(0, Min(Gen UCAP – Load UCAP, Net ICAP))**
- **Net UCAP = Max(0, Min(141.4 – 98.7, 41.5))**
- **Net UCAP = Max(0, Min(42.7, 41.5))**
- **Net UCAP = Max(0, 41.5)**
- **Net UCAP = 41.5**

Load and Generator Data used in Calculation of Net ICAP and Estimated Net ICAP of a BTM:NG Resource

- **Combinations of available Load and Generator data for the BTM:NG resource determines whether Net ICAP or Estimated Net ICAP applies as the basis for the maximum level for Initial CRIS:**

Load Data Type	Generator Data Type	Data Scenario	Net ICAP or Estimated Net ICAP
Appropriate Metered Load Data	Appropriate Metered generator output	LMGM	Net ICAP
Appropriate Metered Load Data	Min(Nameplate-AHL, Injection limit at TO interconnection)	LMGI	Estimated Net ICAP
Estimated Forecasted Peak Load	Appropriate Metered generator output	LEGM	Estimated Net ICAP
Estimated Forecasted Peak Load	Min(Nameplate-AHL, Injection limit at TO interconnection)	LEGI	Estimated Net ICAP

Example of Calculation of Net ICAP when Meter Data Exists for Load and Generator (Data Scenario: LMGM)

- Average of facility's top 20 hourly metered Load values during top 40 NYCA Peak Load hours = 100
- AHL = ACHL * WNF * RLGF * NYCA IRM
- AHL = 100 * .02 * .01 * .17
- AHL = 120
- DMGC for the BTM:NG resource = 150
- Net ICAP = Eligible DMGC - AHL
  - *Net ICAP = 150 - 120*
  - *Net ICAP = 30*

Based on the Net ICAP calculation using meter data, the BTM:NG resource may request Initial CRIS up to 30 MW

Example of Calculation of Estimated Net ICAP using Estimated Load and Estimated Generator Information (Data Scenario: LEGI)

- Estimated Coincident Peak Load: 83 MW
- Estimated Coincident Peak Load will be substituted for average metered coincident load from top 20 hours of top 40 NYCA Peak Load hours
- AHL = ACHL * WNF * RLGF * NYCA IRM
- AHL = 83 * .02 * .01 * .17
- AHL = 100

- Nameplate of new generator: 150 MW
  - *Nameplate will be used in place of DMGC for determining Net ICAP when there is a new generator for the BTM:NG resource*
- Injection Limit on Interconnection Agreement: 75 MW
- Estimated Net ICAP = Min(Nameplate-ACHL, Injection Limit)
  - *Estimated Net ICAP = Min(150 – 100, 75)*
  - *Estimated Net ICAP = Min(50, 75)*
  - *Estimated Net ICAP = 50*

Based on the Estimated Net ICAP calculation, the BTM:NG resource may request Initial CRIS up to 50 MW

Appendix B: Comparative Examples

Examples compare key BTM:NG concepts and corresponding wholesale generator and/or load concepts

Comparative Example: Load Requirement Calculation

BTM:NG Resource

	Year 1
ACHL from Previous Year Metered Load Data	103.5
Weather Normalization Factor	2%
Regional Load Growth Factor	1%
NYCA IRM %	17%
Adjusted Host Load	124.7

Wholesale LSE Load

	Year 1 ROS
NYCA Peak Load from Previous Year	100
Weather Normalization Factor	2%
Regional Load Growth Factor	1%
NYCA IRM %	17%
NYCA ICAP Requirement	120.5

Difference between Load Requirement Calculations:

- ***Load requirement of the BTM:NG resource is average of 20 highest facility loads coincident with top 40 NYCA peak hours***
- ***Weather normalization and Load growth factors are then applied***

- ***Wholesale Load requirements are based on single NYCA peak hour***
- ***Weather normalization and Load growth factors are then applied***

Comparative Example: Determining Capability of the Generator

BTM:NG Resource (Adjusted DMGC)

Min (DMGC, AHL + Injection Limit, AHL + CRIS)

DMGC	149
AHL + Injection Limit	199.7
AHL + CRIS	174.7
Adjusted DMGC	149

Wholesale Generator (CRIS-adjusted DMNC)

Min (DMNC, CRIS)

	Year 1 ROS
Gen	
Gen CRIS	150
Gen DMNC	149
CRIS Adj DMNC	149

Generator Capability:

- ***BTM:NG resource limited to the lesser of its maximum output, its Load requirement plus Injection Limit, and its Load requirement plus its CRIS***

- ***Wholesale generator limited to the lesser of its maximum output and CRIS***

Comparative Example: Net UCAP Calculation

BTM:NG Resource

Net UCAP	Year 1
Gen	
Adjusted DMGC	149
Gen EFORd	8.50%
Gen UCAP	136.3
Load	
Adjusted Host Load	124.7
ICAP/UCAP Translation %	9%
Load UCAP	113.5
Net UCAP	22.8

Differences:

- ***Adjusted Host Load of BTM:NG resource is higher due to ACHL greater than single peak hour Load***
  - ***Both Load values received the same weather and growth adjustments and the same NYCA ICAP/UCAP Translation Factor***
- ***BTM:NG resource not required to purchase NYCA Excess since load is outside NYISO market***

Wholesale Generator & Wholesale Load

	Year 1 ROS
Gen	
CRIS Adj DMNC	149
Gen EFORd	8.50%
Gen UCAP	136.3
Load	
NYCA ICAP Requirement	120.5
NYCA Translation %	9%
NYCA UCAP Total	109.7
NYCA Excess %	2.50%
NYCA Total Purchase	112.4
ROS UCAP Purchase	112.4

(Net UCAP equivalent for ROS is 23.9 MW calculated as: Gen UCAP ROS – ROS UCAP Purchase)