

# Installed Capacity/Unforced Capacity Translation

NYISO Staff has identified that an unintended and unforeseen consequence of the current method for translating the NYCA Installed Capacity Requirement into a NYCA Unforced Capacity Requirement impacts the NYCA's ability to comply with reliability standards.



### **Inconsistent Translation Methodologies Employed**

- The ICAP Requirement is translated to a UCAP requirement by multiplying the ICAP Requirement by one minus the forced outage rate used in the IRM study (ten years worth of FOR combined with events not captured in EFORd).
- •The amount of UCAP a Resource can offer is based on its most recent 12-month rolling average EFORd.

## <u>Result</u>

•A large deficiency of committed Resources.



### **NYCA Installed Reserve Margin**

18%

#### **NYCA Installed Capacity Requirement**

Peak Load x (1 + IRM) = ICAP Req.

30,475 MW x 1.18 = 35,960.5 MW



### **CURRENT NYISO UCAP METHODOLOGY**

### **10-year outage rate from IRM Study:**

9.68%

### **NYCA Unforced Capacity Requirement**

 $(1 - IRM \text{ outage rate}) \times ICAP Req. = UCAP Req.$  $(1 - 0.0968) \times 35,960.5 \text{ MW} = 32,479.5 \text{ MW}$ 



### Current approximate 12-month rolling average EFORd

5%

### **Installed Capacity Equivalent**

UCAP ÷ (1 – 12-mos. rolling EFORd ave.) = ICAP Equiv. 32,479.5 MW ÷ (1 – 0.05) = 34,189 MW



### <u>Approximate ICAP deficiency</u> 35,960 MW – 34,189 MW = 1,771 MW

## Approximate actual Installed Reserve Margin 34,189 MW / 30,475 MW = 1.122 or 12.2%

Approximate ICAP deficiency translated to UCAP 1,771 MW x (1 – 0.05) = 1682.5 MW



# Summary:

- The ICAP requirement is established for system reliability and security. This requirement is the desired measure of actual Resource (biddable DMNC) needed for system reliability.
- EFORd was intended as a Generator accreditation tool. UCAP was a natural result of this accreditation process.
- UCAP is not a true measure of available Resources. That true measure is biddable capacity (DMNC).
- Result of current methodology: Inadequate reserve margins 12 % actual versus 18 % required.



# **Proposed NYISO Interim Solution – 2 Steps**

1. Each Capability Period, translate the NYCA and Locality ICAP Requirements to UCAP requirements based on the average EFORd value of the six (6) most recent rolling 12month EFORds of all NYCA or Locality Resources.



# **Proposed NYISO Interim Solution – 2 Steps**

2. Lock in the amount of UCAP a Resource can supply on a Capability Period basis instead of updating every month and base the amount of UCAP each Resource is eligible to supply on the average of the six (6) most recent rolling 12-month EFORds for that Resource (the same six (6) most recent rolling 12-month EFORd intervals used to translate the various ICAP **Requirements to UCAP requirements).** 



### **The Results - Statewide**

### Average of 6 most recent 12-month rolling EFORDs:

4.98%

New NYCA Unforced Capacity Requirement

(1 – New NYCA outage rate) x ICAP Req. = UCAP Req.

 $(1 - 0.0498) \times 35,960.5 \text{ MW} = 34,169.7 \text{ MW}$ 

Additional Unforced Capacity Required

34,169.7 MW - 32,479.5 MW = 1690.2 MW



#### <u>The Results – Long Island</u>

### Average of 6 most recent 12-month rolling EFORDs:

4.15%

New Long Island Unforced Capacity Requirement

(1 – New LI outage rate) x ICAP Req. = UCAP Req.

 $(1 - 0.0415) \times (0.93 \times 4,776 \text{ MW}) = 4,257.4 \text{ MW}$ 

Additional LI Unforced Capacity Required 4,257.4 MW – 4177.8 MW = 79.6 MW



## <u> The Results – New York City</u>

### Average of 6 most recent 12-month rolling EFORDs:

5.98%

### New York City Unforced Capacity Requirement

(1 – New NYC outage rate) x ICAP Req. = UCAP Req.

 $(1 - 0.0598) \times (0.80 \times 10,665 \text{ MW}) = 8,021.8 \text{ MW}$ 

Additional NYC Unforced Capacity Required 8,021.8 MW – 7,621.6 MW = 400.2 MW