

DER Meter Configurations

Michael Ferrari

Market Design Specialist, New Resource Integration

ICAPWG/MIWG/PRLWG

July 21, 2022

Today's Meeting

- **Review of Meter Options 1,2,3, and 3A presented by the JU at 11/18 MIWG – JU Meter and Billing Capabilities**
- **Meter Options:**
 - Option 1: Dedicated Service Drops
 - Option 2: Net-Exports to the Grid
 - Option 3: Separate Supply and Delivery Billing Determinants and allow for compensation at wholesale rate
 - Option 3A: "Compensation for injections at retail rate"

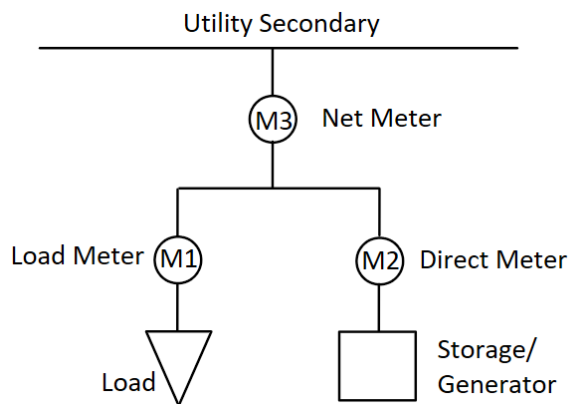
Background

- Each meter option considers the scenario where retail Load is co-located with a generating (storage or generator) asset
- The NYISO DER Participation Model was designed with only one explicit meter configuration, when an ESR is located with load and it is net injecting, it must be directly metered
- **FERC Order 841 (P=Paragraph):**
 - RTO/ISO's are required to directly meter ESRs “so that all energy entering and exiting the resource is measured by that meter.” (P-322).
 - Behind-the-meter resources that do not inject energy onto the grid are defined as “Demand Response” resources, not ESR's (P-32).

JU Proposed Metering Options

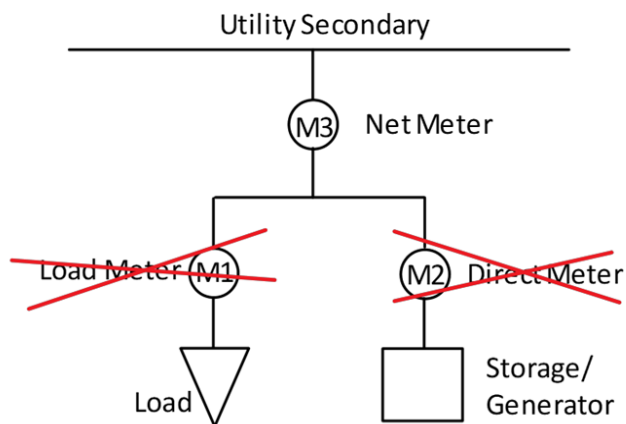
- The JU proposed 3 potential alternative metering options (Option 3A was also proposed, and is covered in a future slide):

Option 1



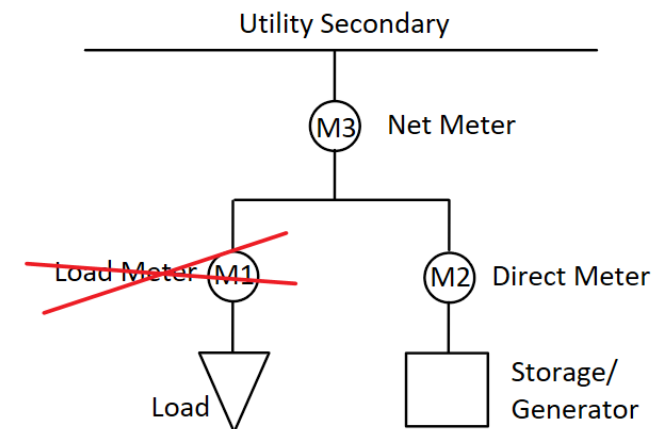
Option 1: Require separate service drops (potentially just additional meters) for the Load and Battery. **NYISO does** support this at program launch.

Option 2



Option 2: Only compensate injections to the grid. **NYISO does not** support this because of Order 841 and other issues.

Option 3

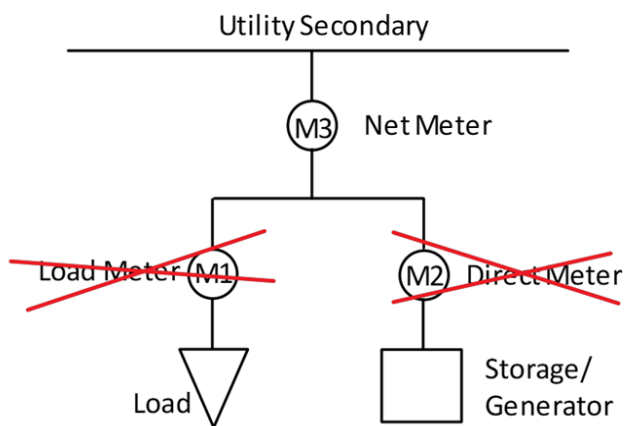


Option 3: Submeter the generator/storage to allow the facility to directly participate in the wholesale market and not as DR. **The JU cannot** support this option until they modify their retail billing systems. ~2024-2025

NYISO Proposes Alternatives to Option 2

- The NYISO proposes two alternatives to Option 2:

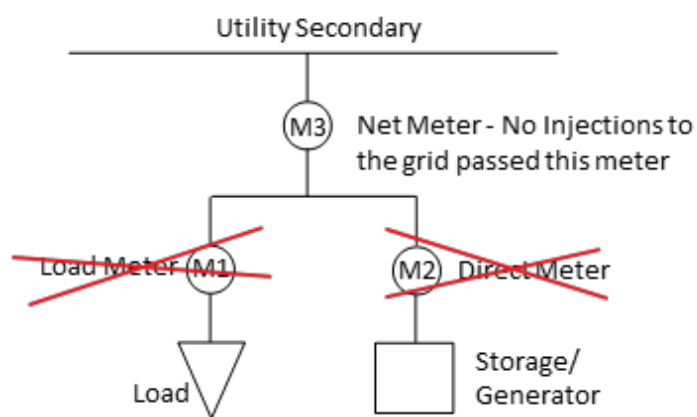
Option 2



Option 2: Only compensate injections to the grid.

NYISO does not support this because of Order 841 and other issues.

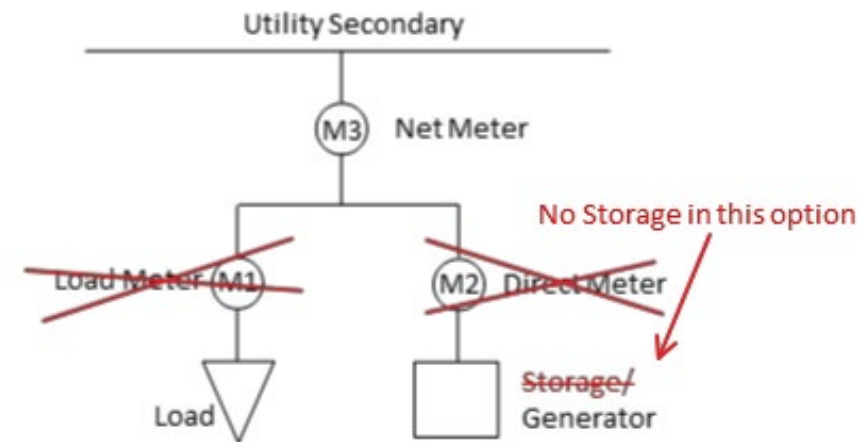
Option 2A



Option 2A: If there are no injections onto the distribution system, then it is a Demand Side Resource. Performance is measured from a baseline.

The NYISO supports this option.

Option 2B



Option 2B: If there is no storage, then it is a demand response facility that can inject to the grid. Performance is measured from a baseline. Response is split into DR and injection responses. The NYISO supports this option.

Option 3: Billing Determinant Additional Details

- The Retail Delivery Charge is for the service of the wires and meter
- The Retail Supply Charge is the commodity rate
- In this example, the Billing Determinant is 112 kWh
- Option 3 requires separate billing determinants, such that the supply charge is lower when some power is self-supplied by a BTM generator/storage, but the delivery determinant is unaffected
 - Utility billing systems cannot currently support separate supply and delivery billing determinants

DETAIL OF CURRENT CHARGES

Delivery Services

Electricity Delivery

Service Period	No. of days	Current Reading	-	Previous Reading	=	Total Usage	
Apr 13 - May 16	33	21905 <i>Actual</i>		21793 <i>Actual</i>		112 kWh	
METER NUMBER		[REDACTED]		NEXT SCHEDULED READ DATE ON OR ABOUT		Jun 15	
RATE Electric SC1 T&D Non Heat							
Basic Service (not including usage)						17.33	
Delivery						0.0657324 x 112 kWh	7.36
Consolidated Billing Credit						-0.41	
RDM						-0.00422 x 112 kWh	-0.47
SBC						0.005203 x 112 kWh	0.59
Transmission Rev Adj						-0.00449 x 112 kWh	-0.50
Tariff Surcharge						3.09278 %	0.73
Sales Tax						3.0 %	0.73
Total Electricity Delivery						\$ 25.36	

Supply Services

Electricity Supply

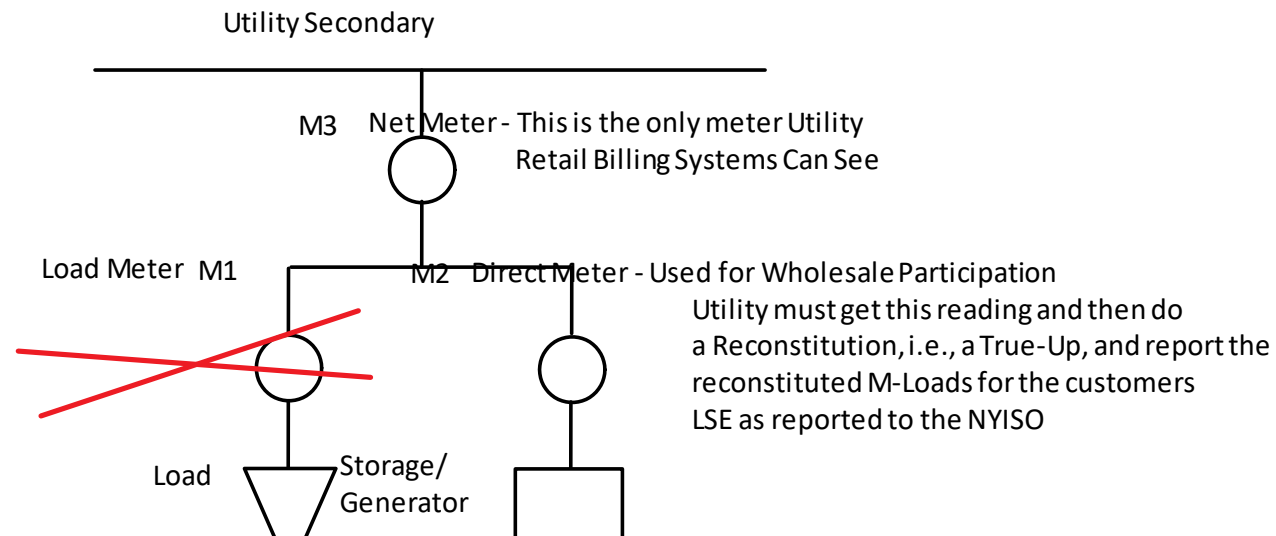
SUPPLIER	[REDACTED]		
PHONE	[REDACTED]	ACCOUNT NO [REDACTED]	
Electricity Supply		0.10875 x 112 kWh	12.18
Tariff Surcharge		1.0101 %	0.12
Sales Tax		3.0 %	0.37
Total Electricity Supply			\$ 12.67

Option 3A

- This option is the same physical configuration as Option 3, but is a quicker implementation for the utilities
- This alternative option requires the NYISO billing system to cancel out any injections by the DER (and, when appropriate, withdrawals from a battery) with a reciprocal invoice to the customer's LSE.
- The mechanism would be very similar to the “Charging at Retail” provision for ESRs required for Order No. 841.
 - The DER would also be “injecting at the retail rate”
- **The NYISO does not support this option.**
 - A resource in the wholesale market that is dispatched at the wholesale market rate, yet not compensated at wholesale market rates is contrary to NYISO market design

Option 3

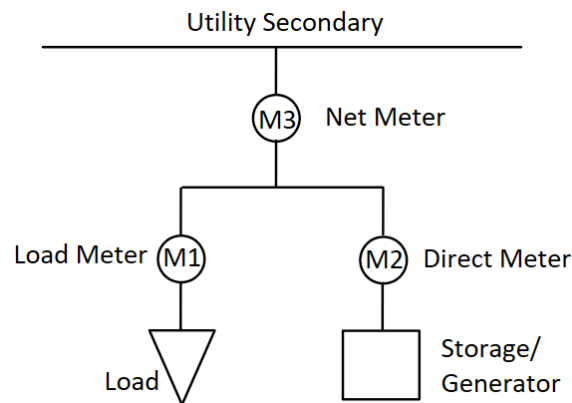
- The NYISO has no objection to Option 3 as an eventual additional meter configuration that is in addition to Options 1, 2A, and 2B



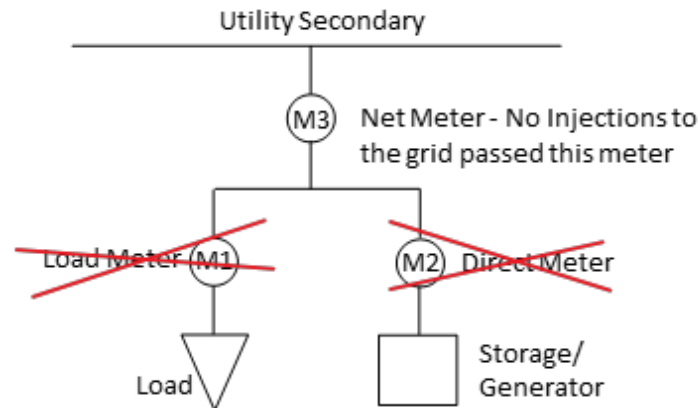
Wrap-Up

- NYISO can support Options 1, 2A, and 2B at the start of DER Participation Model Deployment
- NYISO does not support Option 3A
- NYISO supports Option 3 as an additional option to 1, 2A, and 2B if the utilities implement the necessary changes to support Option 3

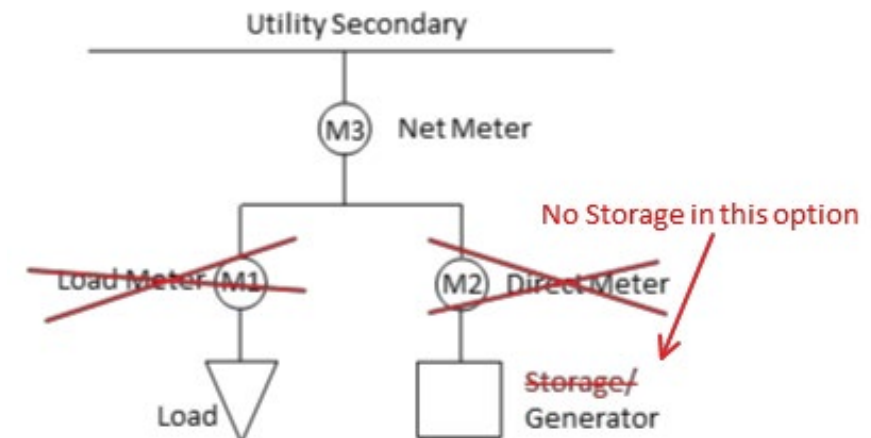
Option 1



Option 2A



Option 2B



Questions?

Our Mission & Vision



Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation