2020 Distributed Generation Winter Workshop
Agenda

• Welcome and Opening Remarks
• Compensation for DG Projects
• SIR Updates
• DG Website/PowerClerk
• Electric Vehicle & Hosting Capacity Map
• Con Edison Round Table (Programs/Incentives/Updates)
• Closing Remarks
Welcome and Opening Remarks

Damian Sciano
Director Distribution Planning
Compensation for DG Projects

Cliff Baratta & Nickesha Carrol
Distributed Generation Group
dgexpert@coned.com
Consolidated Edison
December 2, 2020
Topics

1. Intro: Net Metering (NEM) and Value of Distributed Energy Resources (VDER)
2. NEM Successor Rate
3. CDG “Consolidated Billing” via Net Crediting Model
4. Remote Crediting
Utility compensation models for DER grid export in NYS

Value of Distributed Energy Resources, aka “VDER”

- Phase One Net Metering
- Value Stack
- Buyback (SC 11)
- Demand Response
- Non-wires
VDER Rate Constructs

“Phase One Net Metering”

- Volumetric credit at $/kWh rates
- Reduces $/kWh charges
- Excess monthly generation carries over as a kWh credit to offset future kWh consumption

“Value Stack”

- Monetary credit for grid export
- Usage behind the meter reduces $/kWh charges
- Monetary credit can offset all Electric charges
- Excess credit carries over as a monetary credit to offset future Electric charges

Typical SC 9 charges

Retail Bill (Supply + Delivery)

$/kW

$/kWh

Fixed

0% 20% 40% 60% 80% 100%
Customer types and crediting mechanisms

**Mass Market**
- SCs 1 & 2 (residential and small commercial)
- Credits apply to the Host Account’s Electric charges

**Large Onsite**
- Large Commercial
- Demand-billed Service Classes
- Credits apply to the Host Account’s Electric charges

**Remote (RNM)**
- Credits apply to the Host Account’s Electric charges
- Excess applied to any number of “Satellite” Accounts under same account name as the Host

**Community (CDG)**
- Credits apply to Subscriber Accounts
- Minimum of 10 subscribers per Host\(^1\)
- No more than 40% of allocation to large accounts

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\(^1\) Exceptions for accounts with multiple dwellings (SC8 and SC12), and/or when Host & all subscribers are on the same parcel
Compensation eligibility

Mass Market

≤ 750 kW

Eligible for Phase 1 NEM
(option for Value Stack)

Large Onsite

> 750 kW

Remote (RNM)

Community (CDG)

Eligible for Value Stack

1 Exceptions apply for residential customers and for Hybrid Systems – see Con Edison Electric Tariff
NEM Successor Rate for Mass Market & Large Onsite

**Mass Market**
- **≤ 750 kW**: Eligible for Phase 1 NEM¹ (option for Value Stack)
- **> 750 kW**: Eligible for Value Stack

**Large Onsite**
- **≤ 750 kW**: Eligible for Phase 1 NEM¹ (option for Value Stack)
- **> 750 kW**: Eligible for Value Stack

**Remote (RNM)**
- Eligible for Value Stack

**Community (CDG)**
- Eligible for Value Stack

¹ Exceptions apply for residential customers and for Hybrid Systems – see Con Edison Electric Tariff
History of Net Energy Metering (NEM)

1999 – 2017
“Statutory NEM”

2017 – 2021
“Phase One NEM”

2022+
“NEM Successor”
NEM Order highlights

- On 7/16/2020, the PSC issued NEM Successor Order applicable to all NYS Investor-Owned Utilities

- Customers that interconnect before 1/1/2022 receive Phase One NEM

- Customers that interconnect on or after 1/1/2022 receive NEM Successor:
  - NEM with a monthly “Customer Benefit Charge” (CBC)
  - Customers on TOU rates to receive monetary crediting
What remains the same?

- **Customer eligibility**: mass market and large on-site
  - Mass Market: SC 1 and on-site SC 2 (non-demand billed)
  - Demand-billed customers with on-site generation rated under 750 kW-AC

- **Technology types & size limits**
  - Solar PV, Fuel Cells, residential micro-CHP, farm waste, micro-hydro
  - For mass market customers, above technologies paired with electric storage

- **NEM crediting methodologies and banking rules**
  - *Exception*: monetary TOU crediting in lieu of volumetric banks

- **Compensation term of 20 years** from a project’s in-service date
The new Customer Benefit Charge (CBC)

- **Purpose:**
  - Ensure NEM customers pay their fair share into public policy programs
  - Public policy program costs recovered through the CBC include energy efficiency & low-income discounts

- **CBC billing determinant:**
  - Customer’s nameplate generation in kW-dc

- **The CBC rate:**
  - $ per kW-DC assessed each month; *e.g.*, Residential Solar PV: $1.09 per kW-DC per month
  - Based on the customer’s Service Class & rate type, crediting methodology (NEM vs Value Stack), and DER technology
  - CBC rates will be updated annually
NEM Successor Recap

Next steps:
• Con Edison filed draft NEM Successor tariffs and CBC rates on 11/2/2020
• Anticipating final tariff filing by July 2021, to be effective 1/1/2022
• December 2021 filing with final CBC rates applicable in 2022 (updated annually thereafter)

Key takeaways:
• Projects receiving PTO on or prior to 12/31/21 receive Phase One NEM without a CBC charge for 20 years
• Projects receiving PTO on or after 1/1/2022 (i.e. after 12/31/21) receive Phase One NEM with a CBC charge for 20 years
Customer types and crediting mechanisms

<table>
<thead>
<tr>
<th>Mass Market</th>
<th>Large Onsite</th>
<th>Remote (RNM)</th>
<th>Community (CDG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 750 kW</td>
<td>&gt; 750 kW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eligible for Phase 1 NEM ¹ (option for Value Stack)</td>
<td>Eligible for Value Stack</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Exceptions apply for residential customers and for Hybrid Systems – see Con Edison Electric Tariff
Community DG “Consolidated Billing”

• The PSC ordered NYS Utilities to implement CDG Net Crediting as an option for CDG Hosts¹

• For projects that opt to participate,¹ the utility performs billing services on behalf of CDG Hosts
  – Utility will collect CDG subscription fees from CDG satellites on behalf of CDG Hosts
  – CDG subscription fee is always less than a satellite’s total CDG credit
  – Results in CDG satellite receiving “net credit”

• Con Edison is targeting 2Q 2021 to begin enrollment for Value Stack CDG

¹ CDG Hosts have the option to use Net Credit billing or continue with current method
Community Distributed Generation (CDG) Arrangement

**CDG Host**
*a.k.a. Sponsor*
Utility customer that owns CDG and allocates credits based on exported energy

**Electric Utility**
Interconnects, bills for consumption, and credits for exported energy

**CDG Satellite**
*a.k.a. Subscriber*
Utility customer enrolled by CDG Host to receive bill credits

Review the full Procedural Requirements for Value Stack CDG projects before filing a CDG application:
see bottom of Con Edison [Guides and Specifications for Private Generation](#) webpage
Current billing/crediting process overview

1. CDG Host enrolls CDG satellite and requests utility to allocate percentages of Host’s monthly export to the satellite.

2. Utility calculates the value of the Host’s export and allocates credits to the subscribers’ bills.

3. *In a separate transaction outside of the utility’s jurisdiction & billing systems,* subscriber’s pay the host a subscription payment (typically a percent of the credit)

\[1 \text{ Example numbers shown; actual credits may differ}\]
3. CDG “Consolidated Billing” via Net Crediting Model

Net Crediting billing/crediting process overview

CDG Host enrolls CDG satellites and requests utility to allocate them percentages of monthly production. **The Host provides a Savings Rate** (e.g., 10%), the credit retained by satellites.

Utility calculates the value of the Host’s export and allocates credits to the satellites’ bills. **Credit applied to satellites’ bills is the allocated credit * Savings Rate.**

Utility remits to CDG Host a portion of the applicable credit:

- 100% of credits
  - Subscriber Savings Rate
  - 1% Utility billing fee

\[\text{Percent Paid to CDG Host} = \frac{100\% \text{ of credits} - \text{Subscriber Savings Rate} - \text{1\% Utility billing fee}}{1}\]

**Example numbers shown; actual credits may differ**
One consolidated bill with Net Crediting

Legacy CDG: Two Bills

Utility bill

$150  Electric charges

+ ($100)  CDG credit

$50  Due to Utility

CDG bill

$100  CDG credit

x 90%  Contracted rate

$90  Due to CDG Host (subscription fee)

CDG Net Crediting: Consolidated Bill

Utility bill

$150  Electric charges

($100)  CDG credit

+$ 90  Subscription Fee @ 90% of credit

$140  Due to Utility

$10 “Net Credit”

Utility makes $89 payment to CDG Host
[$90 less 1% billing services fee]
CDG Net Crediting Recap

• Within each CDG Net Crediting project, the Savings Rate applies to all satellites
  – Option for 1 satellite account per project to be excluded from Net Crediting; i.e., Utility will not collect CDG Subscription Fee from this designated “anchor” satellite
  – Different CDG projects can each designate their own Savings Rate

• Satellite Savings Rate must be at least 5% and cannot be more than 100%

• Other rules, timelines, and procedures will be posted on Con Edison’s website when enrollment period begins

• Con Edison will notify CDG Hosts and developers when Net Crediting is open for enrollment
Remote Crediting will become the new RNM

Mass Market

Large Onsite

Remote (RNM)

Community (CDG)

≤ 750 kW  > 750 kW

Eligible for Phase 1 NEM¹ (option for Value Stack)

Eligible for Value Stack

¹ Exceptions apply for residential customers and for Hybrid Systems – see Con Edison Electric Tariff
Remote Crediting replaces RNM for Value Stack projects

<table>
<thead>
<tr>
<th></th>
<th>CDG</th>
<th>Value Stack RNM</th>
<th>Remote Crediting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Credit</td>
<td>Value Stack with MTC or Community Credit</td>
<td>Value Stack without MTC or Community Credit</td>
<td>Value Stack without MTC or Community Credit</td>
</tr>
<tr>
<td># of entities represented in a project</td>
<td>Any</td>
<td>1</td>
<td>Up to 10</td>
</tr>
<tr>
<td># of total satellite accounts per project</td>
<td>At least 10 (with some exceptions)</td>
<td>Any, but all satellites must be same entity (name) as Host</td>
<td>Each of the 10 entities can have any # of satellite accounts</td>
</tr>
<tr>
<td>How credits are allocated/applied</td>
<td>Allocated to each satellites as a % of monthly credit</td>
<td>Not allocated per-satellite</td>
<td>Allocated to each satellite as a % of monthly credit</td>
</tr>
<tr>
<td>Participation requirements</td>
<td>&gt;=60% of allocation to mass market satellites</td>
<td>n/a</td>
<td>Offtakers can only be commercial accounts</td>
</tr>
<tr>
<td>Credits can offset Host’s account</td>
<td>No</td>
<td>Credits first offset Host’s Electric Bill before crediting satellites</td>
<td>Host can optionally allocate credits to themselves</td>
</tr>
<tr>
<td>Excess credits</td>
<td>Retained per satellite; carries over to the next month’s bill</td>
<td>Made available to the next-billed satellite (including Host)</td>
<td>Retained per satellite; carries over to the next month’s bill</td>
</tr>
<tr>
<td>Credits can be banked by Host for future reallocation</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Satellites can participate in multiple projects</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Remote Crediting next steps

• Con Edison and other NYS utilities are working on implementation

• Tariff filings by March 2021 will describe procedures and requirements in more detail

• Per PSC order, existing Value Stack RNM projects must transition to Remote Crediting
  – In 2021, we will be reaching out to in-service and in-queue RNM Hosts to assist
  – Consider how RNM projects in your pipeline will transition to Remote Crediting business model

• No changes to legacy Net Metered (non-Value Stack) RNM projects
Q&A on NEM, CDG, and Remote Crediting?
Standardized Interconnection Requirements (SIR) Update

Joe White
Distributed Generation (DG) Ombudsman
2020 Developer Winter Workshop
SIR Updates – Agenda

- SIR Secondary Network Screens
- Project Modification Requests (Material Modifications)
- Appendix K
- CESIR Cost Contingency & SIR 2021
• January 2019 IPWG Presentation/Review
  – January 2019 – May 2019 Internal Cross-Functional Committee Formation and Draft Screens Development
  – September 2019 – Network Screens Finalized and submitted with other SIR changes

• Since 2/3/2020 up through 11/30/2020
  – 174 projects submitted applications that qualified to use the new screens
  – 63 projects passed the screens equating to 36% of projects submitted
  – 5.85 MWs were approved to be constructed
2020 Developer Winter Workshop
SIR Updates – Project Modification (Material) Modifications

- Developer Requests
  - Project Modification via PowerClerk

- Email routed to Con Edison for Ruling

- Response issued to Developer within 10 Business Days via PowerClerk

- Customer Accepts or Rescinds Modification Request

Project Modification Process
2020 Developer Winter Workshop
SIR Updates – Material Modifications

Non-Material

- A change or replacement of generating equipment such as generator(s), inverter(s), transformers, relaying, controls, etc. that is like-kind substitution in size, ratings, impedances, efficiencies or capabilities of the equipment specified in the original or preceding interconnection request as long as the AC nameplate does not increase beyond the 2% threshold described above.
- A change of transformer connection(s) or grounding from that originally proposed prior to or within the CESIR period.
- A change reducing the AC output or nameplate rating of the generating facility.
- A change in PCC to a new location not described under material modifications.
- A change in ownership of a generating facility.
- Any necessary change not associated with the project modification or a suggested change requested by the utility.

Material*

- A change in point of common coupling (PCC) to a location served by a different circuit, moved to a different line segment (i.e. 3-phase to 1-phase segment, or change in zone of protection), change in site control or any change in PCC for projects interconnecting to network systems.
- A change from certified (NRTL, e.g. UL listed) to non-certified devices.
- An increase in the name plate of the DG or ESS facility of more than 2%, or any increase causing adverse impact to subsequent applications’ ability to interconnect.
- Addition of DG at the facility (other than the 2% increase in nameplate) not disclosed in the application, where separate and distinct DER already exists behind the same proposed PCC. This would include existing non-disclosed DER or request for additional generation at the project site.
- Change in DER operating characteristics or schedules, such as operating mode and smart inverter settings not solicited by the utility.
- A change of transformer connection(s) or grounding from that originally installed.

*Please read guidance document here for more information.
Appendix K does:

- Identifying if Stand-Alone or Hybrid ESS
- Evaluating operating characteristics for all types and sizes
- Collecting data needed to advance ESS projects
- Improving the ESS interconnection experience

Appendix K does not:

- Signify Market participation
- Indicate dual participation (at this time)

Appendix K Best Practices:

- Please indicate charging and discharging times
- Unrestricted charging results in higher interconnection costs
- If interested in solar + ESS but concerned with timing, submit a solar application and hybrid separately.
Per the November IPWG Meeting

- Effective December 1, 2020, contingency shall be lowered from 25% maximum to 15% maximum for CESIR construction estimates

Several SIR 2021 Update discussions in the Interconnection Technical Working Group as well as the Policy Working Group

- CESIR template update
- Cost Sharing Proposal
- SIR Process flow update

Please contact the Con Edison Ombudsman Office with any interconnection or policy questions @ whitejoe@coned.com or dgexpert@coned.com
DG Website & PowerClerk

Jim Skillman
Whenever changes are made to the SIR, the Con Edison tariff, or by a PSC Order regarding DG, the DG Website and PowerClerk must also change.

- SIR Process changes
- Material Modifications
- Appendix K Changes
- Con Edison NWS Updates
- Con Edison Bulk Solicitation
- ESS and Hybrid Compensation
DG Website Overview

Jim Skillman
DG Website
(“Using Private Generation Energy Sources” webpage)

• How do you find the website?
  – Type “Coned.com/dg” into your browser
  – Via Coned.com Homepage

Tips for Lowering Your Energy Bill
Save with Rebates and Incentives
Appliance Marketplace
Estimate Your Energy Usage
Shop for Energy Service Companies
Convert to Natural Gas

Using Private Generation Energy Sources
Using Private Generation Energy Sources webpage

• DG Content arranged into tiles:

  - Solar Energy
  - Private Generation Maps and Resources
    - Apply for Private Generation Interconnection
    - Guides and Specifications
    - Private Generation Tariffs
  - Renewable Energy Incentives for Homes
  - Multifamily Incentives for Local Generation
  - Commercial Incentives for Local Generation
  - Interconnection Collaborative Procedure
  - Contact Us
Apply for Private Generation Interconnection Key Contents

• Interconnection Forms and Documentation (<5 MW)
  – Links to PowerClerk Small DG and Large DG Projects portals
  – Distribution Engineering Cost Guide

• Service and Rate Application Forms
  – Application For Value Stack Tariff Or Standby Service And/Or Buy-Back Service For PASNY Customers
  – Community Distributed Generation Procedural Requirements

Interconnection Forms and Documentation (<5 MW)

The New York State Standardized Interconnection Requirements ([Appendix F](#)) describe all information needed to complete your application. Please review them to avoid delay on your project.
Guides and Specifications Key Contents

• General Guides
  – Energy Storage Guide
  – Information Guide for DER Customers (>5MW to 20MW) Installing High Tension Service

• High-Tension
  – Non-Network Distribution Requirements

• Microgrid
  – Technical Requirements for Microgrid Systems
Private Generation Tariffs Key Contents

- **Value Stack Overview**
  - Components and Eligibility of Value Stack
  - Timing of Value Stack Components
  - Value Stack Calculations

- **Rates and Eligibility**
  - Value of Distributed Energy Resources Statement
  - Con Edison Value of Distributed Energy Resources Tranches
Hosting Capacity

- Link is located on the bottom of any Coned.com page under the “Business Partners” grouping

- Login, sign up for access to the maps, or get information on how and why the maps were created
PowerClerk Review

Jim Skillman
PowerClerk Quick Start

**Small DG Portal**
- Projects 50kW or Less

**Large DG Portal**
- Projects above 50kW to 5MW
- Pre-Application Process
- Request VDER Compensation
- Switch Project to CDG Host
- Non-SIR Projects (above 5MW)
- Non-SIR Projects (NYISO)
- Electric Vehicle Make-Ready Program Application
PowerClerk New Features – Small & Large DG Portals

- SIR Application including Hybrid
  - Applicants no longer need to submit a different application for hybrid projects
  - All relevant questions to apply are contained in a single standardized form.
Electric Vehicle Make-Ready Program Application

- Apply to Con Edison’s Make-Ready Program to reduce the cost of installing electric vehicle charging stations.
- EV team will review your application and confirm your eligibility for incentives.
- If confirmed, complete a service request by going to Con Edison’s Project Center
- Email questions to EVMRP@coned.com
PowerClerk New Features – Large DG Portal Only

• Project Modification aka Material Modifications
  – “Project Modification Request Form - As Needed” located in Available Forms
  – SIR project deadlines still in effect.
  – Very important for Applicant to Accept or Rescind Modification Request – especially if deemed Material.
PowerClerk Key Feature Review

- **Milestones & Current Status**
  - Provides quick snapshot of progress of project against milestones as well as detailed instructions on next steps.

- **Deadlines**
  - Provides a business day deadline date for both Utility and Applicant required actions
  - As per the NYS SIR, certain deadlines will trigger automatic removal of projects from the Large DG Portal queue.
PowerClerk Key Feature Review

• “Ask a Question” Inquiry System
  – Allows Applicant to send question directly to their CPM from within PowerClerk.
  – CPM’s receive notification of new Inquiries and strive for 24-hr turnaround time to answer the Inquiry.
  – Multiple Inquiries on the same project can be seen in the “Ask a Question Threads” section of the project’s homepage
Questions?

Thank you!
EV & Hosting Capacity Map

Alison Kling and Kevin Bishop
EV load capacity maps are now available

- Use your username and password to access the hosting capacity maps
- Navigate to the “EV Charging Capacity” tab on the right
The maps show network transformer capacity and voltage

*Non-network visualization will be available 12/31/2020
The maps show areas eligible for higher incentives from the Light-Duty Make Ready Program for charging stations.
Hosting Capacity
Stage 3 Hosting Capacity

How to view the Maps:
1. Register [here](#)
2. E-mail [dgexpert@coned.com](mailto:dgexpert@coned.com) for access
3. Log in [here](#)
Hosting Capacity – Non Network Layer

Legend

Hosting Capacity for 3PH Circuits
MAXIMUM TOTAL FEEDER HOSTING CAPACITY (MW)
- > 5.00 MW
- 2.00 - 4.99 MW
- 1.00 - 1.99 MW
- 0.50 - 0.99 MW
- 0.30 - 0.49 MW
- 0.00 - 0.29 MW

No Hosting Capacity for 1PH and 2PH Conductors
- NO HOSTING CAPACITY FEEDERS
### Hosting Capacity – Non Network Layer

<table>
<thead>
<tr>
<th>Local Hosting Capacity for 3PH Circuit - KITCHAWAN_6W66</th>
<th>Substation Level System Data: Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATION COMPANY: CECONY</td>
<td>OPERATION COMPANY: CECONY</td>
</tr>
<tr>
<td>SUBSTATION NAME: OSSINING WEST</td>
<td>SUBSTATION NAME: OSSINING WEST **</td>
</tr>
<tr>
<td>FEEDER: KITCHAWAN - 1</td>
<td>SUBSTATION CONNECTED (MW): 5.46</td>
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<tr>
<td>CIRCUIT NAME:</td>
<td>SUBSTATION QUEUED (MW): 14.85</td>
</tr>
<tr>
<td>LOCAL VOLTAGE (KV): 13.00</td>
<td>SUBSTATION TOTAL DG (MW): 5.84</td>
</tr>
<tr>
<td>LOCAL MAXIMUM HOSTING CAPACITY (MW): 8.80</td>
<td>SUBSTATION PEAK (MW): 78.00</td>
</tr>
<tr>
<td>LOCAL MINIMUM HOSTING CAPACITY (MW): 0.56</td>
<td>SUBSTATION REFRESH DATE: 5/31/2020</td>
</tr>
<tr>
<td>ANTI-ISLANDING HOSTING CAPACITY LIMIT (MW): 0.38</td>
<td>NYISO LOAD ZONE: H</td>
</tr>
<tr>
<td>CIRCUIT DO CONNECTED DER (MW): 0.22</td>
<td>BANK SUBSTATION CAPACITY:</td>
</tr>
<tr>
<td>CIRCUIT DO QUEUED_DER (MW): 0.00</td>
<td>3W0 PROTECTION THRESHOLD:</td>
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<tr>
<td>SUBSTATION BACKFEED PROTECTION: YES</td>
<td></td>
</tr>
<tr>
<td>NYISO LOAD ZONE: H</td>
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<tr>
<td>HCA REFRESH DATE: 9/30/2020</td>
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<tr>
<td>DG CONNECTED/DUE REFRESH DATE: 9/30/2020</td>
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</table>
Hosting Capacity – Secondary Network Layer
Additional Value Layers

LSRV Opportunities

NWS Layers
Con Edison Round Table
(Programs/Incentives/Updates)
Commercial & Industrial Energy Efficiency Program

Presented by: Yoav Malka
Date Presented: December 2nd
Agenda

Commercial and Industrial Energy Efficiency Program

Participating Contractor Network

Clean Heat Program
2021 Commercial and Industrial Energy Efficiency (EE) Program Overview

• Con Edison program that offers cash incentives to large commercial and industrial customers for the installation of:
  – New EE equipment upgrades
  – Retrofit EE projects
  – Gut renovation EE projects

• Managed in house by Con Edison
  – The C&I EE Team is comprised of our knowledgeable group of Business Development Managers, Energy Specialists, Program Managers and other supporting groups who work with C&I customers to submit projects into the C&I EE Program.

• Who’s eligible?
  – C&I customers over 100 kW avg. peak demand on a 12-month rolling basis.
  – All customers with firm & interruptible gas (rate 1 and 2) accounts
  – Must not have applied with another entity for the same project
  – Applicant must be account holder
2021 Incentives and Eligible Measures

• In the past 3 years, Con Edison has paid $48.5 million in cash incentives to customers, saving over 280 million kWh and 3.8 million Therms annually – reducing their carbon footprint by 220,067 metric tons

• Incentives are capped at 70% of total project costs

• Eligible measures include:
  – Variable frequency drives (VFDs)
  – External boiler air reset controls
  – Exhaust fans and fume hood controls
  – Building automation systems
  – Building sensors and controls
  – Demand control ventilation
  – Chiller plant optimization
  – Static pressure reset
  – Boiler linkage-less controls
  – For full list of eligible measures, refer to our program manual

• Incentives for BMS control measures are up to $0.45 per kWh and/or $7 per therm

• Example projects found in the Appendix, slides 118 and 119
### What to expect?

#### 1. Pre-Install Phase
- ✓ Confirm eligibility
- ✓ Complete application package
- ✓ Sign offer letter
- ✓ Complete pre-inspection
- ✓ Notice to proceed

#### 2. Install Phase
- ✓ Equipment Install
- ✓ Completion Paperwork
- ✓ Post Inspection

#### 3. Incentive Phase
- ✓ Final Offer Letter
- ✓ Receive Incentive

You MUST complete all pre-install requirements prior to moving onto installation/demo. If you start installation prior to receiving the Notice To Proceed, you will be ineligible for incentives.
Participating Contractor Network

• Network of contractors approved by the C&I program
  – Well versed in C&I program details and incentive process
  – Help customers identify energy savings opportunities and improve their bottom line

• Save time, money & effort with *Incentive Navigator*
  – Our Incentive Navigator Portal is available exclusively to our Participating Contractors to help streamline projects from start to finish.
  – Use Incentive Navigator to:
    • Check customer eligibility
    • Create branded estimates
    • Submit applications for both prescriptive and custom projects
    • Schedule pre-inspections

 Become a Participating Contractor  
 Find a Participating Contractor
C&I Program Resources

• Commercial and Industrial Energy Efficiency Program
  Commercial@coned.com
  Coned.com/commercial

• Participating Contractor Resources
  Participating Contractor Portal  Become a Participating Contractor  Find a Participating Contractor
NYS Clean Heat Program
Commercial & Industrial Track

• Receive cash incentives for the installation of efficient electric clean heat systems
  – Systems must be sized to carry your space heating or hot water heating load

• Incentives are available for the following Heat Pump technologies:
  – Variable Refrigerant Flow
  – Central Air Source
  – Water Heating Solutions
  – Ductless Mini-Split
  – Geothermal
  – Custom Heat Pump Solutions
# NYS Clean Heat Program

<table>
<thead>
<tr>
<th>Application</th>
<th>Category</th>
<th>Description</th>
<th>Eligible Technologies</th>
<th>Incentive</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Space Heating</strong></td>
<td>1</td>
<td>ccASHP: Partial Load Heating</td>
<td>MSHP</td>
<td>$500</td>
<td>$/outdoor condenser unit</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>ccASHP: Full Load Heating</td>
<td>Central ccASHP, MSHP</td>
<td>$2,000</td>
<td>$/10,000 Btu/h</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>GSHP: Full Load Heating</td>
<td>GSHP</td>
<td>$2,850</td>
<td>$/10,000 Btu/h</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Custom</td>
<td>Central ccASHP, MSHP, Commercial Unitary Systems/Large Commercial ASHPs, VRF and GSHP</td>
<td>$150</td>
<td>$/MMBTU of annual energy savings</td>
</tr>
<tr>
<td><strong>Water Heating</strong></td>
<td>5</td>
<td>Heat Pump Water Heater</td>
<td>HPWH (up to 120 gallons of tank capacity)</td>
<td>$1,000</td>
<td>$/Unit</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Commercial HPWH</td>
<td>HPWH (above 120 gallons of tank capacity)</td>
<td>$80</td>
<td>$/MMBTU of annual energy savings</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>GSHP Desuperheater</td>
<td>Optional component to GSHP systems</td>
<td>$150</td>
<td>$/Unit</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Dedicated DHW WWHP</td>
<td>Dedicated DHW WWHP</td>
<td>$1,000</td>
<td>$/Unit</td>
</tr>
<tr>
<td><strong>Space &amp; Water Heating</strong></td>
<td>9</td>
<td>Simultaneous Installation of Space Heating &amp; Water Heating</td>
<td>HPWH plus others</td>
<td>$250</td>
<td>Additional bonus incentive</td>
</tr>
</tbody>
</table>

*Con Edison will cover up to 70% of the project cost*
NYS Clean Heat Program - Resources

• Visit Clean Heat NYSERDA for more information on the NY State Clean Heat Program

• Visit ConEdison.com/CleanHeatCommercial for program information and application

• Please note: You must be a registered NYS Clean Heat Participating Contractor to apply
  – Become an NYSCH Participating Contractor
  – Find an NYSCH Participating Contractor

• Email cleanheat@coned.com to submit your application and/or for questions and inquiries regarding any of the Con Edison Clean Heat programs
NYS Clean Heat Program – How to Become a NYSCH PC

• Submit the following information to cleanheat@coned.com
  – Complete a NYS Participating Contractor Application to become a Participating Contractor in the NYS Clean Heat Participating Contractor Network
  – Complete a Con Edison Clean Heat Participating Contractor Agreement
  – Provide updated IRS W9 form and
  – Certificate of Insurance policy (minimum $1M)
Non-Wires Solutions (NWS)

Non-Wires Solutions is a portfolio of non-traditional solutions that seek to defer or eliminate traditional infrastructure projects for the benefit of the distribution system.

**DER Portfolio Approach**

- **Customer-sited solutions**
- *Capacity Expansion*
- **Current Demand**
- **Forecasted Demand**

<table>
<thead>
<tr>
<th>kW</th>
</tr>
</thead>
</table>

**Defers or eliminates traditional projects through leveraging innovating technologies to reduce peak load including:**

- Energy Efficiency
- Distributed generation technologies (CHP/Fuel Cells)
- Dispatchable battery energy storage

**Non-Wires Solutions Projects**

- Brooklyn-Queens Demand Management
  - *Deferral of an area substation*
- Water Street
  - *Elimination of cooling projects*
- Newtown
  - *Deferral of a load transfer*
**Portfolio Development**

Utilize a portfolio-based approach of customer-sided solutions to reduce risk, meet peak demand and meet operational needs of the system.
Energy Storage

Non-Wires Solutions procures Front “FTM” or Behind the Meter “BTM” battery energy storage for first dispatch rights during NWS days for 10-year performance contracts

System Needs
- Focus on “customer-sided” solutions
- ESS Program Agreement
  - Minimum 4-hour system duration
  - Operate for 10 consecutive Summer periods
    - Defined as May 1 – September 30
- Day-ahead notification
- Interconnection in accordance with NYS SIR

Revenue Structure
- NWS Payment:
  - 50% incentive payment at Operational Date
  - 5% annually for each Summer period
- Not eligible for Con Ed’s DR/DM/DLM
- Must meet NWS dispatch requirements before any other arrangement with the customer or applicable markets
- Maximize current and future ESS revenue streams
- Share revenue streams from NYISO market participation
  - 75% to Con Edison, 25% to the Vendor
Stay Informed on Upcoming RFPs

www.coned.com/nonwires

Non-wires solutions have the potential to reduce customers' electric bills, improve reliability, and defer capital infrastructure. We've identified several opportunities to create such change.

### Current Opportunities

<table>
<thead>
<tr>
<th>Projects</th>
<th>Current Status</th>
<th>Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Feeder Relief - Chelsea</td>
<td>Project deferred due to decrease in the projected load</td>
<td>Project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description</td>
</tr>
<tr>
<td>Parkchester No. 1 Cooling Project</td>
<td>Project deferred due to decrease in the projected load</td>
<td>Project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description</td>
</tr>
<tr>
<td>Newtown Transformer Installation Project</td>
<td>No longer accepting proposals</td>
<td>RFP</td>
</tr>
<tr>
<td>Primary Feeder Relief - Williamsburg</td>
<td>No longer accepting proposals</td>
<td>RFP</td>
</tr>
<tr>
<td>Water Street Cooling Project</td>
<td>No longer accepting proposals</td>
<td>RFP</td>
</tr>
<tr>
<td>Plymouth Street Cooling Project</td>
<td>No longer accepting proposals</td>
<td>RFP</td>
</tr>
</tbody>
</table>

Lindsay O’Neill-Caffrey
OneillcaffreyL@coned.com
Bulk Solicitation

Charlie Umberger
Utility of the Future
The bulk solicitation program stems from 2018 Energy Storage Order

• 2018 energy storage order
  – Con Edison goal of 300MW to be installed by 2022
  – Contracts for seven years

• 300MW Con Edison’s goal not fully met

• JU filed for changes on 10/30/2020 in 18-E-0130 to procure additional MWs
  – In service date extended from 12/31/2022 to 12/31/2025
  – Max contract duration extended from 7 to 10 years
  – Allows for alternatives to 4 hour systems
  – Introduced utility own and divest model
Changes requested in filing are expected to overcome risks associated with the original model

<table>
<thead>
<tr>
<th>Tolling: 4 hr duration</th>
<th>Tolling: 1-2 hr duration</th>
<th>Divestiture</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Con Edison purchases dispatch rights for 10 years</td>
<td>• Con Edison purchases dispatch rights for a number years</td>
<td>• Con Edison purchases turn-key energy storage project at COD</td>
</tr>
<tr>
<td>• Larger percent of contract paid at COD and remaining paid annually</td>
<td>• Larger percent of contract paid at COD and remaining paid annually</td>
<td>• Con Edison bids the asset into wholesale markets</td>
</tr>
<tr>
<td>• Asset provides value to grid through wholesale markets via capacity, energy, and A/S</td>
<td>• Asset provides value to grid through wholesale market via frequency regulation</td>
<td>• Con Edison conducts a RFI/RFP process to sell the system after defined term (e.g. 5 years)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• O&amp;M services would also be purchased for the same term with optional extensions</td>
</tr>
</tbody>
</table>
All models will be subject to the following requirements

- 5 MW minimum
- Electrically connected inside Con Edison service territory
- Developers seeking tolling contracts should consider (and will be asked to explain assumptions for) market revenues after the utility contract
- Commercially available technology
- Can be customer-sited or directly connected to a substation
The next solicitation is scheduled for Q2 2021

• Timing
  – Expect an order in February or later
  – RFP to be released in Q2 2021

• Resources
  – 9/24/2020 technical conference presentation
  – 10/30/2020 petition to modify energy storage order
  – 12/13/2018 energy storage order
DG Winter Workshop

Energy Storage

Mohamed Kamaludeen, Project Manager
Con Edison of New York
December 2nd, 2020
Agenda

• Energy Storage (ES) use across the Electric System

• Con Edison Distribution-Connected ES projects

• Changes in the Battery Industry: Design, Thermal Management and Capacity

• Cost and Efficiency

• Utility Challenge to Developers
Energy Storage Use Across Electric System

Transmission-Connected Services:
- Transmission & Market Services:
  - Tx capacity, peaking plant alternative, ancillary services, etc.

Distribution-Connected Services:
- Distribution Services:
  - Dx capacity, Renewables integration support, power quality, volt/var support, etc.

Customer-Sited Services:
- Customer Services:
  - Demand charge reduction, retail energy arbitrage, demand response

Deployment Locations - Domains

Resilience
Con Edison Distribution-Connected ES projects

- Utility Owned and Operated 2MW / 12MWh at 98th Street / Ozone Park
- Turn-Key Model with Integrator

- Utility Owned and Operated 7.5MW / 30MWh In Staten Island
- Utility EPC model

- Con Edison Make-Ready Model (Space & Interconnection)
- 3rd party owned ES system for a total capacity of up to 10 MW and 40 MWh
- 3rd party owned EV chargers – Publicly accessible DCFC + Level 2
Changes in the Battery Industry: Design, Capacity and Thermal Management

• Industry is moving away from the walk-in standard container in order to get
  – Higher energy density
  – Manage risk of fire and explosions

• Side loaded containers or smaller modules

• Either solution promises more energy per sq.ft.
  – Crucial for New York City projects as land is at a premium and the cost of construction is high

• Smaller modules can be fully assembled and tested in factory prior to shipment and sold under an equipment supply contract
Changes in the Battery Industry: Design, Capacity and Thermal Management

Compensating for capacity loss

- Based on learnings from our first ESS installation, we have moved from specifying initial capacity to specifying end-of-life capacity
- We have been presented with two solutions to such requirements
  - Vendor may oversize the installation
  - Vendor may augment the system at some point during the service life
    - Exchanging battery modules, or
    - Adding more battery modules
  - Both oversizing the system and adding more modules increases the footprint of the ESS and drives up the site and construction cost

![Battery Sizing and Augmentation Graph]
Changes in the Battery Industry: Design, Capacity and Thermal Management

• Most ESS systems are air cooled, but…

• Some systems are transferring the experience from the transportation industry and are using liquids for thermal management, as it is more compact and efficient
  – Systems are using ethylene glycol or propylene glycol solutions
  – New York City and New York State have strict requirements on ethylene glycol, which may drive the need for more comprehensive containment requirements

• Utilities are familiar with secondary containment moat designs, but it does impact civil construction cost

EH&S Considerations
Cost and Efficiency

• Total cost of ownership (at least 10 years)
  – As a regulated utility, we need to provide a lifetime Customer Benefit Cost
    Analysis to get a project approved

• Capital cost of system: per kW and kWh
  – Starts with the cost of the electrochemical cells and what it will take to avoid
    explosions, fires, chemical leaks, etc.
  – Engineering and Construction

• Operating cost
  – Discharge and charge efficiency
    • Cost of charging the storage against the benefits the system provides
  – Loss of capacity with cycling and storage
  – Qualified and trained workforce
Cost and Efficiency

Lack of Common Language
- “Know your customer”
  - Electrical utility deals with redundant system safety measures, Capacity and Hours
  - Battery industry is dealing with safety on a cell level, and with Power and Energy

Deployment Models
- Engineering, Procurement and Construction (EPC)
- Turn-Key installation
- Make-Ready (Space and interconnection)
- Rights to first dispatch
- Power Purchase Agreement (PPA)*

*KNot a viable option for Con Edison
Challenge: We need alternatives to Lithium Ion batteries

- For our 59th Street Steam Plant on Manhattan, we need a 4MW / 100MWh energy storage system to comply with City NOx requirements.
- No outdoor space for lithium ion battery.
- We need an environmentally benign but cost effective solution.
- We are looking at flow batteries and thermal storage.
Virtual Verification Testing

conEdison
Agenda

- Introduction
- Benefits of Virtual Verification Testing
- Concerns
- Video
- Statistics
Introduction

• Virtual verification testing for projects under 300kW is recommended
• We can increase safety and efficiency by leveraging technology
• Concerns can be mitigated prior to testing
Benefits of Virtual Verification Testing

- COVID-19
  - Social distancing
- Safety
  - Commute
  - Ladders
  - Weather conditions
- Typically easier to schedule
- Leverage technology
- Multitasking
- Potentially faster than in-person
Concerns

• Connection quality
  – Check phone signal and wi-fi strength during construction
  – Take pictures or record video for areas with poor connection

• Multiple screens and locations (CHP)
  – Recommend having more than 1 employee on site to assist
  – Send screenshots and relay settings file
Video

View video

https://bcove.video/3gxulgE
(copy and paste the link into a browser)
Statistics

- Number of virtual tests completed: 31
- Average size per project: 114 kW
- 3.5MW of projects have been expedited through this newer efficient process
Searching for DER Interconnection Solutions in the CECONY Service Territory
Timeline

- **Fall 2018** - Developers and Customers sought Con Edison to implement similar simplified interconnection designs that other utilities such as Orange & Rockland Utilities (ORU) specified for a medium voltage metering on overhead poles with a pad mount generator disconnect.

- **Spring 2019** - Energy Storage System (ESS) developers continue task force discussion for Con Edison to have a simplified interconnection process for primary voltage DER designs that maintains isolation, protection, security at a comparative reduced infrastructure and cost than EO-2022’s required designs, Con Edison’s only specification for High Tension interconnection.

- **Summer 2019** - ESS developers begin submitting numerous CESIR applications with preliminary screen questions.

- **Fall 2019** - ORU specifications are acquired to progress conceptual designs with Meter Shop feedback and involvement.

- **March 2020** - EO-10215 – Interconnection Requirements For DER To High Tension Non Network Distribution is officially released internally and externally on http://www.coned.com/dg

- **Summer 2020** - EO-2022 HTV Customer Substation designs no longer allowed to be given as an option across all NYS SIR DER applications with ongoing HTV customer feeder isolation and restoration challenges effective October 1, 2020.
EO-10215 – Interconnection Requirements For DER To High Tension Non Network Distribution

- Only allowed to interconnect with Non-Network Distribution Feeders
- Reduces complexities resulting from ABF, Fault Current Contribution, Loadflow Studies
- Specification is written as only a Single Feeder – One Metered Service
- Single Contingency (N-1) Feeder designs can be integrated upstream if DER is not interconnected with an AutoLoops
- Backbone/Main run feeders are not targeted for interconnection

1.0 PURPOSE
This specification provides Consolidated Edison Company’s requirements for interconnection to prospective inverter-based Distributed Energy Resources (DER) customers seeking overhead radial non-network high tension service and interconnection.

2.0 SCOPE
This type of service, classified as non-standard overhead (non-network distribution) high tension service and interconnection, is available exclusively for Inverter-based technology distributed generation (DG) facilities without the expectation of redundant service or minimum contingency. Upon request, The Company will determine if the customer application qualifies for High Tension radial service and interconnection. The Company will select the appropriate radial configuration or may elect to decline to offer this option for interconnection if it is not feasible or where it would otherwise negatively impact the Company service or the reliability of existing Customers. There shall be no electric loads fed from this type of high tension service that are not in direct support of a generation facility; therefore this type of interconnection shall not be required to have a minimum contingency design.

The Customer may request an alternate supply feeder for redundancy. Multiple high tension services of this type within one facility using separate radial overhead feeders may be offered, if possible. A Coordinated Electric System Interconnection Review (CESIR) will determine viability. Submission and acceptance of the Customer’s DG plant, operating procedures, and open transition methods is required. Depending on the specific request, site, and design, the Customer may be required to file separate interconnection or service applications.

This specification includes requirements for interconnection and the High Tension Metering Enclosure (HTME) situated between the overhead Utility feeder and the first high tension disconnect device on the Customer’s side of the meter. This specification does not cover any other customer infrastructure including switchgear, transformers, or DG product that are downstream of the first high tension disconnect. Specific requirements associated with the DG installation shall be reviewed during the CESIR study.
• Ability to interconnect with feeders of 4 kV, 13 kV, 27 kV, 33 kV following DE CESIR study with DER application location

• DER size would be evaluated in CESIR to determine max power output to interconnect with primary cable and equipment appropriately. Upgrades would be considered as a part of options.

• 4 kV Grid Feeders: Typical “Limit” of 2 MW due to protective relay schemes at USS

• Auto Loop Feeders: Typical limits of based on Recloser configurations specified in EO-2067
  — 13 kV: 5 Reclosers: 1.5 – 3 MW; 7 Reclosers: 1 – 2MW
  — 27 kV: 5 Reclosers: 2.5 – 5 MW; 7 Reclosers: 2 – 4MW
  — CESIR to be evaluated without consideration of complete autoloop reconfiguration between all autoloop sections and sides

• Other Stepdown Feeders & 4 kV Auto Loops: Limits To be studied
EO-10215 – Overview

• DER System requires a **Customer Property Line Box** to be at least 25 feet from the property line or last utility PCC

• New EO-10215 High Tension Metering Enclosure (HTME) includes metering cabinet maintained by the Customer

• Meter Shop Spec [MES-350](#) compliant HT Revenue Meter integrated; CT’s and PT’s compartment layout per EO-2022

• Con Ed construction will come into customer property line box from the riser. Perform the final splice in the customer property line box structure (PCC location). Customer provides all splicing and trenching from the Property Line Box to HTME.

• Maintain same “HTV” identification and Site specific Operations & Maintenance (O&M) specification documentation requirements.

• Custom protection at a Utility operated single triple single (STS) or vacuum recloser switch (VRS) includes coordinating with DER System’s inverters IEEE-1547 settings

• Following a site visit with Field Operations, the utility owned switch may be installed on customer property and customer owned poles with truck/crew awareness of 24 hour/ 7 day operational accessibility and driveway access. An Agreement can be acknowledged in the First Amendment/ EO HT O&M Specification.
HTME – High Tension Metering Enclosure  Interior/ Top

Figure 10: Conceptual High Tension Metering Enclosure (HTME) Top View

Figure 2: Conceptual High Tension Metering Enclosure (HTME) Interior - Front View

Figure 3: Conceptual High Tension Metering Enclosure (HTME) Interior - Rear View
HTME – High Tension Metering Enclosure Interior Compartments

FIGURE 4: CONCEPTUAL HIGH TENSION METERING ENCLOSURE (HTME) LEFT SIDE PROFILE – INTERIOR COMPARTMENTS

FIGURE 5: CONCEPTUAL HIGH TENSION METERING ENCLOSURE (HTME) RIGHT SIDE PROFILE – INTERIOR COMPARTMENTS
HTME – High Tension Metering Enclosure  Exterior Views (All Sides)
DER – Operations

NORMAL

• The DER will charge and discharge on the agreed upon schedule as designed and approved for operation.
• STS/VRS would be point of Monitoring/Protection/Isolation
• SCADA will be required via XA21 and available for operators to view status wishes to see status to be viewed at the System Operator.
• HTV Customers with on site generation have HTOD diagram notation and have associated PI Tags

FAULT

• Each DER System feeder servicing the location will have its own STS/VRS for the purpose of Feeder Protection & Visible Break Isolation.
• This device will lock out immediately on overcurrent.
• Will not reclose/restore after faults (forward or backwards) until the control center manually resets the device remotely or instructs that it be reset locally.
• STS/VRS will open non-lockout if it senses voltage and/or frequency transient disturbances outside IEEE-1547 standards.
• STS/VRS recloses automatically after 5 minutes of good continuous voltage and frequency, unless it’s been blocked open by an operator.
• STS/VRS may be blocked open (SCADA or local control) if any company MEGs or other emergency operations require abnormal or temporary reconfigurations to supply isolated portions of the system while permanent work is being completed.
DER – Operation Details

- The DER System currently will only operate grid connected and will not operate in island mode.
- Outages, investigations, or any copper work beyond the STS/VRS will need to be planned in advance by the ESD/CPMs.
- The O&M specification will require the CPM to arrange all field groups and permits with the operating authority the same way it is currently done for regular planned network High Tension customer work.
- Feeder Map Notes for the VRS/STS will denote this “DG” exists and the DER Type with the HTV number and other pertinent operating details.

Isolation and Grounding for Work

- OSHA ground studs
- “Neons” live line indicators (glow tubes)
- Visible breaks on both sides of the HTME Customer will be required to ground facility prior to any between the VRS/STS and 89L.
27 kV Auto-Loop Example
Feeders emanate from Bensonhurst No. 2 Area Substation.
27 kV Auto-Loop Example

EO-2067 7.8  Five (5) Recloser Auto Loop: 2 Sides, 4 Sections

<table>
<thead>
<tr>
<th>Loop Connected kVA</th>
<th>Load kVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>Side 1</td>
</tr>
<tr>
<td>Emerg Capacity</td>
<td>Load</td>
</tr>
<tr>
<td>20000</td>
<td>10000</td>
</tr>
<tr>
<td>Norm Capacity</td>
<td>5000</td>
</tr>
</tbody>
</table>

Loop Connected kVA
Loads Between Than 10.0 MVA and 20.0 MVA
Future Challenges

• Can the utility continue to operate and maintain to prioritize NYISO market participation issues with system operations and reliability standards with continued DER integration?

• Will DER proposed applications continue to integrate more protection, monitoring, control, and isolation technologies to enable better designs towards interconnection?

• Other questions...
APPENDIX
Compensation for DG Projects
**Value Stack CDG Incentive**

**Phase One: Market Transition Credit (MTC)**
(for projects that qualified by July 26, 2018)

- SC1: 10.54 ¢/kWh
- SC2: 13.27 ¢/kWh

- SC1: 9.49 ¢/kWh
- SC2: 12.09 ¢/kWh
- SC1: 8.45 ¢/kWh
- SC2: 10.9 ¢/kWh

- Tranche 0/1: 8 MW claimed
- Tranche 2: 136 MW
- Tranche 2: 206 MW
- Tranche 3: 205 MW

**Phase Two: Community Credit**

- All subscribers: 12 ¢/kWh¹

- 61 MW remaining
- 289 MW claimed as of 11/15/2020
- 350 MW

¹ Set to ~2 ¢/kWh for Fuel Cell projects qualifying after August 13, 2019
EEDM Appendix
## Incentive Example: Building Automation System

**Building Management System (BMS)**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>1 System</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Project Cost</th>
<th>$87,986</th>
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</thead>
<tbody>
<tr>
<td>Incentive %</td>
<td>57%</td>
</tr>
<tr>
<td>Incentive Amount $</td>
<td>$50,117</td>
</tr>
<tr>
<td>You Pay:</td>
<td>$37,869</td>
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</tbody>
</table>

**KWh Saved**: 111,370
Incentive Example: VFD Controls

<table>
<thead>
<tr>
<th>Large Office Supply CHW Pump</th>
<th>Incentive Amount $</th>
<th>88,200 KWh Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentive</td>
<td>$0.19/kWh</td>
<td></td>
</tr>
<tr>
<td>Motor Size</td>
<td>75 hp</td>
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<tr>
<td>Incentive Amount $</td>
<td>$16,758</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Large Office Supply Fan</th>
<th>Incentive Amount $</th>
<th>64,200 KWh Saved</th>
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</thead>
<tbody>
<tr>
<td>Incentive</td>
<td>$0.19/kWh</td>
<td></td>
</tr>
<tr>
<td>Motor Size</td>
<td>40 hp</td>
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</tr>
<tr>
<td>Incentive Amount $</td>
<td>$12,198</td>
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