

REV Demonstration Project: Community Power

Q3 2020 Quarterly Progress Report

Dated: October 31, 2020

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1.0 EXECUTIVE SUMMARY

Consolidated Edison Company of New York, Inc. ("Con Edison" or the "Company") submits this second quarterly report for 2020 on the progress of the Community Power REV Demonstration Project (the "Project") implemented as part of the Reforming the Energy Vision ("REV") proceeding, as required by the *Order Adopting Regulatory Policy Framework and Implementation Plan*, issued by the New York State Public Service Commission ("Commission") on February 26, 2015. Budget information is being filed confidentially with the Commission.

1.1. Project Background

The Project was proposed on September 24, 2018, assessed by the Department of Public Service Staff ("DPS Staff"), approved on October 16, 2018, and its implementation plan was filed with the Commission on April 23, 2019.

The Project is designed to examine a new self-sustainable model for increasing the access of low- and moderate-income ("LMI") customers to distributed energy resources ("DER"), such as solar-powered generation. The Company has reevaluated the original project design in light of the Commission's *Order Regarding Consolidated Billing for Community Distributed Generation* ("Order").² The Net Crediting mechanism³ authorized within the Order minimized the value of several of the original hypotheses. The Project has since been revamped to examine smart inverter performance at various settings, to test effective marketing of Community Distributed Generation ("CDG") to LMI customers, and to model the feasibility of increasing access to DERs within the LMI customer segment. Specifically, the Project aims to increase overall usage of smart inverter functionality, which is low despite high penetration of smart inverters, while demonstrating a scalable model for LMI CDG.

The Project will continue to be structured so that LMI participants receive bill credits from the solar produced by the Project's solar arrays at a discount. Since participants

¹ Case 14-M-0101, *Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision*, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015).

² Case 19-M-0463, *In the Matter of Consolidated Billing for Distributed Energy Resources*, Order Regarding Consolidated Billing for Community Distributed Generation (issued and effective December 12, 2019).

³ CECONY Net Crediting Plan, Case 19-M-0463, *In the Matter of Consolidated Billing for Distributed Energy Resources* (filed February 12, 2020).

pay a subscription fee at the end of the month that is less than the projected solar energy bill credit they receive from the Project at the beginning of the month, participants will likely receive a net savings on their bill pursuant to the net crediting authorized in the Order. Participants are not required to pay any upfront or additional fees to participate in the Project.

COVID-19 Impact

All project partners and their staff worked remotely during Q2 2020. Planned in-person workforce training and outreach activities were migrated to online formats. COVID-19 is expected to impact site safety plans and procedures of the solar installation contractor if construction commences in late Q3 as expected. Con Edison and Solar One do not anticipate other COVID-19 related scheduling delays at this time.

Project Goals

Community Power is expected to provide:

- A process for recommending smart inverter setting to future developers of similar CDG projects;
- A power flow model baseline that includes improved assumptions;
- Monthly energy savings the expected energy savings per participant may vary but could total approximately \$78 annually (or \$6.36 per month) if the Project proves successful;⁴
- A sustained number of LMI customers subscribers 350 and 50 waitlisted with a 20% customer conversion rate;
- 1,416,000 kWh of clean energy and a reduction of 1,727,520 lbs. of CO² equivalent in greenhouse gas emissions per year;
- Access to and indirect ownership of DERs for LMI residents, which will increase participating customers' ability to manage energy costs;

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⁴ Throughout the 25-year life of the solar assets the estimated savings is \$667,352 for participating LMI customers, depending on individual participant monthly energy usage. Key assumptions underlying this figure when the Project was initially filed are: A 25-year asset life, system size (kW-DC) 1,180, production factor (kWh/kW-DC) 1,180, Annual PV Degradation Rate .50 percent, Con Edison VDER annual rate escalation 1.5 percent, Year One SC1 VDER (\$/kWh) \$0.2022, and a solar subscription rate of \$0.172.

- Paid solar apprenticeships and job placement support for up to 15 to 30 lowincome New Yorkers; and
- Improve customer energy literacy, perception of, trust in, and satisfaction with Con Edison;

Con Edison is executing the Project with a team of partners. The partners and their respective roles are listed below.

Roles and Responsibilities

Project Partners	Roles
Con Edison Investor-owned utility	Project Sponsor, Oversite and Guidance, Financing (for Program Costs) Funding, as deemed appropriate, in support of the Project's success
Solar One Environmental nonprofit	Team Lead, Solar Strategy, and Training
WE ACT Environmental justice nonprofit	Community Engagement and Enrollment, LMI Customer Strategy
Brooklyn Movement Center (BMC) Community advocacy nonprofit	Community Engagement and Enrollment, LMI Customer Strategy
Green City Force Environmental training and service program	Workforce Recruitment and Training
Co-op Power/Resonant Energy Community energy cooperative	Solar Development, Operation, and Ownership, Delivery of Tax Equity Investment
Impact Investor (Lender) Social and environmental benefit seeking debt provider	Project Finance (for Capital Costs)
New York City Housing Authority (NYCHA) Public housing provider	LMI Housing Resident Engagement and Enrollment Partner

The Project's geographic focus and the NYCHA housing developments that will be hosting solar panels are set forth below.

HOUSING DEVELOPMENTS	CAMPUS LOCATION AND ZIP	RECRUITMENT NEIGHBORHOODS	
KINGSBOROUGH	Bed-Stuy, Brooklyn (11233)	Bed-Stuy, Canarsie, Crown Heights, Brownsville	
GLENWOOD	Canarsie, Brooklyn (11234)		
CARVER	East Harlem, Manhattan (10029)	Harlem, Washington Heights	

1.2. Project Overview



Community Power REV Demo Project

The Community Power project is designed to establish a process for recommending smart inverter settings to similar, future CDG projects; a benchmark for marketing strategies used to increase adoption of DERs by LMI customers; and a baseline for the Company's Power Flow model assumptions. The Project will also establish a case study illustrating that LMI customers will in aggregate not default at significantly higher rates than non-LMI CDG subscribers. The Project's business model uses third-party financing to facilitate indirect LMI customer ownership of distributed solar-powered generation, through LMI customer membership in a community energy cooperative, which provides LMI participants with indirect ownership rights.

Project Start Date: June 18, 2019 Project End Date: Q4 2022

Budget: \$1.8 M

Q3 2020 Spend: Filed Confidentially Cumulative Spend: Filed Confidentially

Phase 1: Pre-Development Ongoing Phase 2: Implementation Ongoing Phase 3: Evaluation Ongoing Phase 4: Closing Ongoing

Lessons Learned: Customers

Marketing and messaging research revealed:

- The Project's communications were easy to understand.
- Customers agree it would be easy to participate, and thus are interested in participating.
- The **desire to save money and energy** drive interest in participating in the program.
- However, interest in participating drops when multi-family renters are required to enroll in auto-payment, often due to a desire to have control over their payments.

Lessons Learned: Market

- Negotiating real estate leases between public entities and non-profit organizations can be a challenge due to competing priorities, limited bandwidth from each parties' counsel, and limited flexibility regarding lease terms resulted in a protracted process.
- Regulatory changes can significantly impact the timeliness and value of demonstration projects
- Balancing the Company's desire for Community Based Organization (CBO) partnership with measurable, trackable, outcomes-driven marketing strategies and materials that include customer insights, has the potential to leave CBOs feeling disempowered and lacking agency, when compounded by significant scheduling delays that necessitate truncated review processes.

Application of Lessons Learned: Marketing material will be updated to reflect customer feedback related to increasing font size and background color changes to increase readability. A "call out" that says, "Are you a renter?" will be placed on materials to make it clear that this program is for renters, as requested by several respondents.

Expectations related to customer touchpoints will be more clearly outlined, and additional time and process documents will be built into project operations to accommodate appropriate review and strategic alignment with project goals and amongst project partners.

Issues Identified: Not applicable at this time.

Solutions Identified: *Not applicable at this time.*

Recent Milestones: Finalized lease negotiation with NYCHA; Tentatively secured Financing; Launched Customer Enrollment; Finalized negotiations on amendment to Solar One/Con Edison contract.

Upcoming Milestones: Notice to Proceed-All Permits Secured (Q3-Q4 2020, revised from Q3 2020); Execute lease with NYCHA (early Q4 2020); Execute finance contracts (early Q4 2020); Execute amendment to Solar One/Con Edison contract (early Q4 2020); Launch feedback surveys to project subscribers, non-subscribers, and potential investors (Q4 2020); Installation Commencement (Q4 2020, revised from Q3 2020); Project Fully Subscribed with 350 LMI Households (Q4 2020); Construction Complete (Q1 2021, revised from Q4 2020); Customers Receive First Solar Credit on Con Edison Bill (Q4 2020, revised from Q1 2021); Demo Ends (Q1 2023, revised from Q1 2022).

2.0 QUARTERLY PROGRESS

2.1 Activities Overview and Updates

Phase 1, Pre-Development: started in June of 2019. This phase is 86 percent complete, with six out of seven major tasks identified as milestones and/or key Project deliverables listed below accomplished.

☐ Develop legal agreements
☑ Initiate site selections
☑ Release competitive request for proposals
☑ Deploy program costs (an impact investment)
☑ Selecting solar installers
☑ Negotiating pricing and terms for the solar installations
☑ Secure community outreach partnerships

Milestones and/or Key Tasks Complete Since Last Quarter:

The finance agreement terms between the financers of the Project and Solar One/Coop Power's LLC have been finalized. Co-op Power and Accord Power have completed the amendment on labor and materials requirements for the installation of additional equipment needed for the smart inverter testing. The amendment to the universal agreement between Solar One and Con Edison so that the Company can manage and use smart inverter functionality and all resulting data is in the final stages of execution.

Phase 2, Implementation: planned to begin in Q1 2020 and continue through early 2021, this phase is 55 percent complete, with six out of 11 major tasks identified as milestones and/or key Project deliverables listed below accomplished.

Milestones and/or Key Tasks Complete Since Last Quarter:

☐ Procure solar arrays, communications and environmental sensor equipment
☐ Install solar arrays communications and environmental sensor equipment
☑ Recruit workforce apprentices
☑ Train workforce apprentices
☑ Engage subscribers on a rolling basis
Enroll subscribers on a rolling basis
□ Launch the Project
☐ Job placement for workforce trainees
☑ Create the Project's LLC
☑ Raise tax equity
☑ Deploy Project financing for capital costs (a loan)

During Q3 2020, 15 apprentices went through Green City Force's workforce training class and have been given conditional offers.

WE ACT and BMC conducted outreach to residents with flyers and mailers, but did not achieve the desired level of engagement. To reach more customers, Solar One developed and Con Edison reviewed, an updated customer engagement plan to incorporate person-to-person outreach while following all appropriate COVID-19 safety protocols.

Solar One and Co-op Power have secured a financing commitment and the lease with NYCHA is in the final stages of execution. Solar One and Co-op Power are in the process of receiving the permits, and have started customer enrollment process.

Phase 3, Evaluation: slated for 2021, this phase is 0 percent complete, with zero out of three major tasks identified as milestones and/or key Project deliverables listed below accomplished.

Milestones and/or Key Tasks Complete Since Last Quarter:

☐ Documentation of results (analysis of bill impacts, default rates, on-time payment, revenue realization rates, etc.)
☐ Job placement for workforce trainees
□ Draft initial final Project report
Phase 4 , Closing: slated to begin in 2022. This phase is 0 percent complete, with zero out of three major activities identified as milestones or key Project deliverables listed below accomplished.
Milestones and/or Key Tasks Complete Since Last Quarter:
☐ Final survey for participants
☐ Final survey for workforce trainees
☐ Finalize closing report

This phase also included several key activities that are expected to occur after the close of the Project. For example, by approximately year six after installation or "substantial completions," the tax equity investment in the Project will be fully repaid, and ownership of the solar arrays will revert back to the community energy cooperative (a LLC created by Co-op Power). At approximately year 15 after substantial completion, the loan for capital costs is expected to be fully repaid and the Project is expected to have excess operating profit. Finally, by approximately year 20 after substantial completion, the Project's solar arrays are expected to reach their useful life.

2.2 Key Metrics

⁵ "Substantial completion" means that all of the Project's solar system components are installed and fully constructed, but the construction permits have not been closed, inspections have not been completed, and permission to operate has not been granted.

Program metrics and ancillary benefits metrics will be tracked once the Project is launched in Q4 of 2020 on a quarterly basis (for program metrics) and annually (for ancillary benefits metrics). Below is an abbreviated list of metrics to be tracked.

Category of Effect	Performance Metrics	Reporting Cycle
Smart Inverter Settings & Power Flow Model Baseline Development	Settings & Power Flow Model Baseline settings: (1) inverter response time, (2) ramp rate, (3) voltage curves (4) active power (5) voltage, (6) reactive power, and (7) power factor Initial model vs. actual system behavior comparison	
Affordability	Participating Customer Savings: Average net utility bill savings delivered to low-income program participants (target = \$78/household/year) Average percent reduction in energy costs (target = seven to 15 percent) Average reduction in late fees and penalties Reduction in the number and cost of disconnections Project Financial Performance: Default rate for LMI subscribers, defined as the percentage of participant payments that are more than 30 days overdue (target = < 10 percent) Project revenue realization rate, defined as the percentage of total kWh sold at the target subscription rate (target = > 95%)	→ Quarterly
Sustainability	 Total solar capacity installed (target = 1 MW-AC) KWh of solar energy generated (target = 1,416,000/year) Reduced greenhouse gas (GHG) emissions in (target = 1,727,520 lbs. of CO² equivalent in GHG per year) 	→ Quarterly
Engagement	 Number of LMI customers engaged and educated regarding opportunities to participate (target = 1,170 LMI customers assuming a 30 percent conversion rate, to arrive at 350 participants) Net promoter score Increase in energy literacy Reported perceptions of the utility and demonstration program design 	→ Quarterly
Access	 Number of LMI households that subscribe to the CDG projects as compared to target of 350 Number of NYCHA residents and other LMI customers who participate in the project as job trainees (target = 30) Workforce training program completion rate (target = 90 percent) Percentage of green workforce trainees employed in the trades six months following installation (target = 65 percent) Participant satisfaction measured six months following system commissioning via phone survey (target = highly satisfied) 	→ Quarterly

Finance and System Metrics

Finance and some system metrics will be filed with Staff confidentially and will allow Con Edison and Staff to assess the health of the financing instruments and the solar systems.

2.3 Lessons Learned and Recommendations

Marketing efforts conducted in September 2020, through flyers and mailers, did not generate a great number of leads. In Q4 2020, Solar One, WE-ACT, and BMC will conduct in-person marketing by setting up tables at industry events, while following strict COVID-19 safety protocols.

3.0 NEXT QUARTER FORECAST

3.1 Planned Activities

The Project Team expects to execute the lease agreement with NYCHA and finance agreements and receive building permits from the Department of Buildings ("DOB") by mid-late October 2020.

The Project team also plans to begin in-person outreach.

Barring any further delays due to COVID-19, Solar One's Green Workforce Training Program trainees will accept their apprenticeship offers and start the construction of the PV solar systems in Q4 2020.

Accord Power will also start mobilization activities, such as purchasing the remainder of solar equipment and mobilizing for construction in Q4 2020.

The Project team will continue to closely monitor the COVID-19 situation and plan risk mitigations in accordance with federal and state guidance and orders. The Project timeline may continue to be delayed due to COVID-19 and government restrictions on engaging in non-essential construction.

4.0 APPENDICES

The following appendices are included at the end of this Quarterly Progress Report:

Appendix A: Community Power Description of Phases

Appendix B: Work Plan

Appendix C: Checkpoints and Milestone Progress

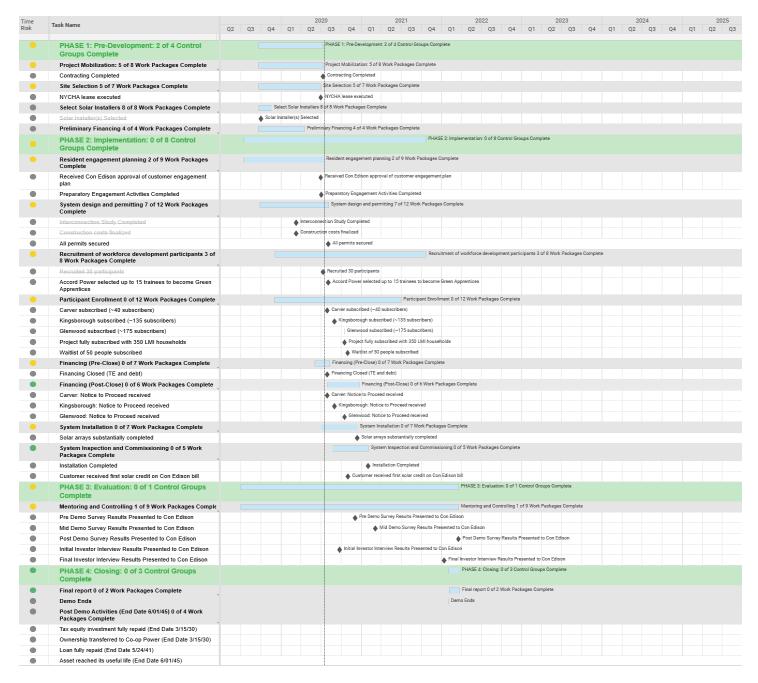
Appendix D: Procedures and Policies

Appendix A: Community Power Description of Phases

Phase	Pre-Development	Implementation	Evaluation	Close
Milestone (Stage Gate to Next Phase)	Negotiations & Preliminary Financing • Lease signed with NYCHA • Critical mass of customers enrolled • DOB permits secured	System Design, installation & Activation Recruit workforces Procure equipment Notice to proceed at each site	Metric Tracking & Analysis Programmatic outcomes recorded monthly and quarterly Financial outcomes recorded monthly and quarterly Ancillary program benefits surveys	Report & Responsibility Hand Offs Con Edison obligations to the Project end Solar One, We Act and BMC, Green City Force, and Accord Power obligations to the Project end
Key Elements	 Contacting with all parties completed Marketing strategy, collateral, and messaging finalized 	 Equipment installed Workforce training complete System inspection Complete site walkthroughs Customers recruited and successfully receive first bill credit from solar system Smart inverter Test 1 conducted 	 Finalize metrics Develop survey questions and dissemination tools Finalize survey and metrics collection logistics Pre and mid-point marketing surveys conducted Smart inverter Test 2 conducted 	 Final surveys conducted Final investor and housing provider interviews conducted Final reports from all parties and partners submitted Post-demo financing millstones occurred and come to a close
DER Categories	Community Distributed Generation	Community Distributed Generation	Community Distributed Generation	Community Distributed Generation

Appendix B: Work Plan

The Work Plan was revised in Q2 2020 with the new tasks that better represent Project activities and an updated timeline. The Project's close is expected to occur in 2022. An overview of the Project by phase and control group (major category of work packages), with millstones, is below. Completed millstones have been crossed out.

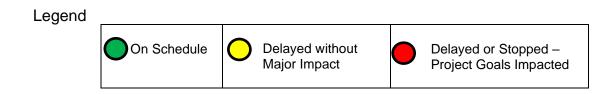


Legend



Appendix C: Checkpoints and Milestone Progress

Checkpoint/Milestone	Timing	Status
Business Structure Established and Financing Closed	Phase 2 Beginning-Midpoint	000
Workforce Recruited and Trained	Phase 2 Beginning-Midpoint	
Subscribers Enrolled	Phase 2 Midpoint	000
Solar Installation Complete	Phase 2 Midpoint	000
Customers Receive First Solar Credits on Con Edison Bill and Sufficient Energy Savings Achieved	Phase 2-3 End of Phase 2 / End of Phase 3	•00
Adequate Revenue Realization Achieved	Phase 3 Beginning-End	•00



Planned Activities

Business Structure Established

Status: Yellow

Expected Targets by Phase 2 Beginning-Midpoint: LLC created, tax equity raised, legal agreements negotiated and executed, and final course of Project finance deployed.

Actual by Phase 2 Beginning-Midpoint: Six of six legal agreements developed and signed in Phase 1. Three of three additional sub-agreements completed. Lease

contracts are in the final stages of execution. Financing terms with tax equity and debt providers have been secured and the financing agreement is in its final stages. Solar One and Co-op Power have executed their agreement amendment. Con Edison and Solar One plan to execute their agreement amendment in Q4 2020.

Solutions/strategies in case of results below expectations: None.

Workforce Recruited and Trained

Status: Green

Expected Targets by Phase 2 Beginning-Midpoint: 15-30 apprentices having completed their training and matriculating to work opportunities with selected installers.

Actual by Phase 2 Beginning-Midpoint: The Project's workforce training has been moved to early Q3 2020 to better align with the expected Q3 2020 installation window. Green City Force has trained and given conditional offers to 15 recruited trainees.

Solutions/strategies in case of results below expectations: The Project team will continually evaluate progress on a bi-weekly basis, and if there are specific issues, Con Edison and Solar One will actively discuss delays with Green City Force to understand the recruitment and training bottlenecks and to develop preemptive plans and mitigation strategies that address current bottlenecks and anticipate any future bottlenecks.

Subscribers Enrolled

Status: Yellow

Expected Target by Phase 2 Midpoint: A sustained 350 participants signed up to receive solar energy credits on their utility bill, with an additional 50 maintained on a waitlist.

Actual by Phase 2 Midpoint: During Q3 2020, the Project's customer engagement partners, WE ACT and BMC, had limited success with flyers and mailers.

Solutions/strategies in case of results below expectations: The Community Power team will continue to make efforts where possible to expedite and parallel path the review of the engagement plan, outreach materials, metrics reporting, and other supporting activities. For example, WE ACT and BMC will start in-person outreach in Q4 while following strict COVID-19 safety protocols.

Solar Installation Complete

Status: Yellow

Expected Target by Phase 2 Midpoint: Complete system design, installation, inspection, and commissioning.

Actual by Phase 2 Midpoint: System designs have been submitted to NYCHA, and final approval will be granted after the lease agreement is signed. Solar One anticipates permits to be received in early Q4 due to delays on lease finalization.

Solutions/strategies in case of results below expectations: Solar One and Con Edison will collaborate and determine ways to expedite the installation process. Solar One will provide ongoing bi-weekly reports about potential bottle necks in the construction schedule, and appropriate mitigation strategies will be clearly outlined for Con Edison by Solar One.

<u>Customers Receive First Solar Credits on Con Edison Bill and Sufficient Energy Savings are Achieved</u>

Status: Green

Expected Targets by Phase 2-4 End/End: An average net utility bill savings delivered to LMI participants, a percent reduction in energy costs (target 15 percent), and a relatively equal projected solar energy capacity targeted versus actual solar generated.

Actual by Phase 2-4 End/End: Installation of the solar systems is not scheduled to begin until Q4 2020.

Solutions/strategies in case of results below expectations: The Project team will evaluate solar system performance and Project financing and solar system metrics monthly against targets. Con Edison will troubleshoot with the Project team based on the specific financing area experiencing underperformance. These metrics will be evaluated monthly and quarterly, and customer savings obtained from the Project will be analyzed and compared to saving projections. Consistent underperformance will result in the closing of the Project to minimize financial losses for the Project's partners and investors.

Adequate Revenue Realization Achieved

Status: Green

Expected Target by Phase 3 Beginning-End: A high project revenue realization rate, where revenue realization is defined as the total possible dollar amount of solar energy credits provided, divided by the actual dollar amount of subscription payments received from subscribers.

Actual by Phase 3-4 Beginning-End: Subscriptions have not been issued yet due to initial limited customer engagement and delays in construction from COVID-19 and ongoing lease agreement efforts.

Solutions/strategies in case of results below expectations: The Project team will evaluate engagement metrics bi-weekly to determine whether the Project is maintaining an adequate number of enrolled and waitlisted customers. The Project team will also actively work with the pool of subscribers (providing a monthly statement and promptly following up with and replacing non-paying participants from a waitlist) to enable a high Project revenue realization rate, even with some level of participant non-payment. If a participant decides to stop participating at any time, the existing participant will be promptly replaced by a LMI customer on the Project's waitlist. The Project team will also continue to watch engagement and revenue metrics for two quarters after a given drop in revenue realization. This rate will be compared to benchmarks gleaned from pre-demo impact investor surveys used to access investor appetite for financing future CDG Projects that use the Project model. After two quarters of evaluation, if low performance persists, Con Edison will consider closing the Project since the Project cannot be successful without a revenue realization rate that is satisfactory to investors.

Appendix D: Procedures and Policies

CYBERSECURITY AND PERSONALLY IDENTIFIABLE INFORMATION PROTECTION

Consistent with Commission policy related to cybersecurity and the protection of personally identifiable information ("PII"), each partner agreement executed for the implementation of the Project includes an amendment detailing specific protections related to cybersecurity and PII required of the Project partners and their information technology systems. This protection is critical in encouraging customers to sign up with new and innovative services offered by the Company.

ACCOUNTING PROCEDURE ESTABLISHED

On February 16, 2016, in Case 15-E-0229, Con Edison filed an accounting procedure for the accounting and recovery of all REV demonstration project costs. This accounting procedure establishes a standardized framework that will govern how the Company categorizes and allocates the costs of the REV demonstration projects and facilitates analyzing each project to determine the overall financial benefits of the program to customers.

COSTS, BENEFITS, AND OPERATIONAL SAVINGS

Budget information, including costs incurred and projected to be incurred, for all of the Company's REV demonstration projects is being filed confidentially with the Commission, concurrently with the filing of this document. All costs filed are incremental costs needed to implement the projects. To date, grants have been available to reduce the net costs of the Projects, but Con Edison will take advantage of such offsetting benefits when they are available. Due to the stage of implementation for the Project, there are no operational savings to report currently.