

Program Name: Residential Zero Net Energy Transformation (RZNET) Program
Program Type: Local
Market Sector: Residential

A. Implementation Plan Narrative

1. Program Description

The Residential Zero Net Energy Transformation (RZNET) program is a new innovative way of serving multifamily and manufactured homes. RZNET program design is a turnkey cost-effective zero net energy end-to-end solution that transforms multifamily and manufactured home community owners, operators, and residents into knowledgeable stewards of water, electricity, and natural gas. In compliance with SB 350 – Clean Energy and Pollution Reduction Act of 2015, RZNET program participants are put on the path to zero net energy, beginning with direct install measures, a complimentary ASHRAE Level 1 audits, sales consultations acting as catalysts for advanced energy efficiency, solar PV installations, and battery storage opportunities for multifamily and manufactured housing properties.

Program Budget and Savings

Program Name: RZNET				
Program ID number: 4002				
Program Budget: \$14,570,000				
Type of Program: Third Party				
Market Sector: Residential				
Program Type: Resource				
Market Channels: Direct Install, Renewable and Storage Technologies, Audits, and Financing				
First Year Annualized Deliverable	2021	2022	2023	Total
Gross Therm Savings	939,058	939,058	939,058	2,817,174
Gross kWh Savings, first year annualized	4,023,840	4,023,840	4,023,840	12,071,520
Gross kW Reduction	1,228	1,228	1,228	3,684
Net Therm Savings	665,902	665,902	665,902	1,997,706
Net kWh Savings	2,709,073	2,709,073	2,709,073	8,127,219
Net kW Reduction	856	856	856	2,568
Walkthrough Audits and Sales Consultations	1,000	1,000	1,000	3,000
Program TRC	1.26		Program PAC	1.36

2. Program Delivery and Customer Services

The RZNET will deliver the program and customer services following the 4- step process outlined below:

STEP 1: In accordance with SB 535, the program targets disadvantaged communities throughout SDG&E's service territory. The SB 535 mapping tool found on the OEHHA CalEnviro Screen website is used to identify the disadvantaged communities for program outreach and education. A program outreach utilizes an iPad to geofence the disadvantaged communities and targets MF and MH communities face to face, by phone, or email to set-up a meeting to share the program in person or via webinar. The intent is to meet the property manager or owner of the property in the beginning of the sales cycle so that the property begins with zero net energy in mind. Multifamily (MF) and Manufactured Housing (MH) marketing lists are created to prepare for strategic outreach efforts that include the distribution of flyers, and door hangers by program energy specialists. Disadvantaged communities (DAC) are identified for DAC outreach intensification.

STEP 2: The program liaison is assigned to meet with MF and MH community owners and operators to receive authorization to provide direct install services and request permission to do direct outreach/canvassing. The program liaison also coordinates with SDG&E's SPOC, when working with MF and MH communities that are looking for additional program opportunities that are beyond the program scope of work.

STEP 3: Multifamily owners and operators are presented information about SDG&E ESA, MF - LIWP (Includes Solar PV), MF statewide offerings and financing. Multifamily deed restricted properties are identified and passed along to the SDG&E common area measure (CAM) program. Manufactured housing residents are presented SDG&E ESA information and if eligible, are enrolled in ESA by the ESA certified program implementer at the time of RZNET direct installation enrollment.

STEP 4: Multifamily properties and manufactured housing residents are enrolled in the RZNET and scheduled directly from the field by the Program Liaison or Energy Specialist.

The timing of each program delivery component is as follows:

Day One: Program Outreach, Eligibility verification with duplicate measure request inquiry (DMRI), and Direct Install Measure scheduling 2-3 business days out.

Days 3-4: Direct Installation visit with demand response enrollment invitation and ASHRAE Level 1 audit sales consultation to put on ZNE path.

Days 5-6: Follow-up with property management company or manufactured housing resident about the invitation for no cost ASHRAE Level 1 audit sales consultation and schedule the visit.

Table 1(a)

Program Name and Description				
i. Program Name	Residential Zero Net Energy Transformation (RZNET) pronounced “Rez Net”.			
ii. Market Segment	The segment includes residential multifamily owners and renters in apartment or condominium complexes with 2 or more units, also owners and renters in manufactured mobile home dwellings. Common areas of multifamily complexes and manufactured housing communities are also included.			
iii. Primary Direct Install Technologies and Contribution to Savings * C – Common Area Only	Direct Install Technologies	Areas of Savings		
		Gas	Elec	Water
	Audits			
	ASHRAE Level 1 Audit	X	X	
	HVAC (Heating Ventilation Air-Conditioning)			
	Air Conditioning Tune-Up		X	
	Central Brushless Fan Motor		X	
	Electronic Fan Delay Control	X	X	
	Smart Wi-Fi Thermostat	X	X	
	Hot Water Heating			
	Hot Water Tank Insulation * C	X		
	Pipe Insulation	X		
	Thermostatic Shower Valve	X		
	Tub spout Diverter Valve	X		
	Showerheads	X		X
	Aerators	X		X
	Lighting			
	48in T8 Lamp LED * C		X	
	Pumping			
	VSD Pool Pump * C		X	
Demand Response Enrollment				
AC Saver and OHM Connect	X	X		
iv. Primary Statewide Program and Customer Financed Technologies	Statewide Programs and Financed Technologies	Areas of Savings		
		Gas	Elec	Water
	New Finance Offerings			
	Lighting		X	
	Plug Load & Appliance		X	
HVAC QI/QM	X	X		
v. Primary Renewable and Storage Technologies and Contribution to Savings	Renewable Technologies	Areas of Savings		
		Gas	Elec	Water
	Solar Photovoltaic Panels		X	
Battery Storage		X		

3. Program Design and Best Practices

By design the RZNET program overcomes the most common multifamily and manufactured housing market barriers with the best practices and solutions illustrated in Table 3(a).

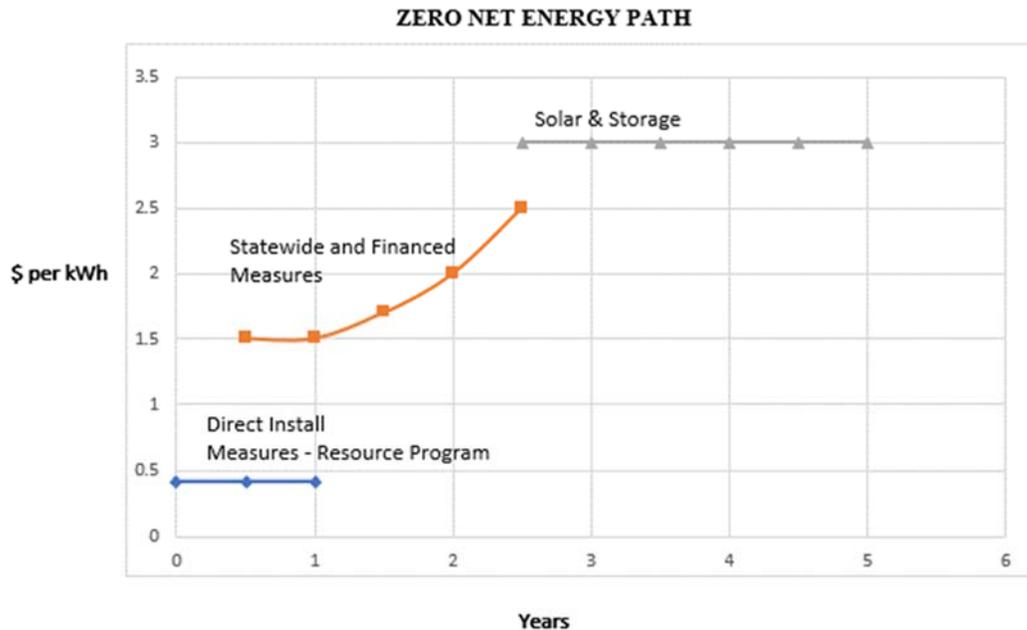
Table 3(a)

Market Barriers	Best Practices and Solutions
Current program can be complicated and impede energy efficiency program participation	The RZNET program provides a simple and common pathway to ZNE by working closely with the SDG&E SPOC and implementer carrying all the licenses and skills in-house to install all ZNE measures the customer may need.
Current program design is transactional in nature and thus short-term focused and results in missed opportunities	The RZNET program design is transformational. As a result of participating, the customer develops a new-found awareness of the benefits of advanced energy efficiency, solar, and storage; and how to easily acquire them.
The split incentive between property owners and tenants dramatically reduces energy efficiency upgrades	Educating the multifamily and manufactured housing property owner and operator through complimentary ASHRAE Level 1 Audits and sales consultations enlightens their understanding of how the program can bring additional revenue from increased rents and property values.
The diversity of multifamily building types makes it highly challenging to develop program delivery models, incentive programs and consistent packages of building upgrade measures that meet the needs of every situation	It is understood that one ZNE solution will not fit all MF and MH community needs. The program liaison and SDG&E's SPOC will guide the prospect through a semi-custom process to identify which measures and financing option is the best fit.
Innovation of implementation methodologies procurement processes are needed to meet the SB 350 goals	Staying current with emerging technologies and collaborating with CalTF, industry retailers, and product manufacturers may lead to new cost-effective ways to double energy savings.

The best practices and solutions to each of the barriers differ from those used previously by past program designs and industry professionals. The new approaches outlined in the above table demonstrates the RZNET program intends to create a transformational cost-effective direct install experience for the customer rather than a transactional one. The RZNET program also intends to create a customized zero net energy road map for the customer, guiding them through their energy efficiency plan.

Figure 3(a) illustrates the estimated timing of direct install measures, statewide financed advanced energy efficiency measures, and solar and storage with their respective estimated cost per kWh. It is estimated that most customers will require 3 to 5 years to complete the Zero Net Energy journey.

Figure 3(a)



The ASHRAE Level 1 audit tool excites and informs property owners/managers of advanced energy efficiency and renewable opportunities. It identifies equipment that is ready for natural replacement and accelerated replacement. The audit tool is iOS based and customizable to meet the program’s unique needs. The customer receives an electronic copy of the audit and it is reviewed with the program energy specialist to determine next steps.

4. Innovation

The RZNET (Residential Zero Net Energy Transformation) is a new innovative design that can be replicated across residential and even commercial market segments. At its core, the program seeks to be transformational rather than transactional, literally transforming the customer into a more wise and knowledgeable steward of electricity and natural gas and instilling the desire to improve their facility to increase long-term operating margins, reduce the carbon footprint, enjoy increased comfort, and achieve Zero Net Energy.

The program's innovative delivery approach begins with zero net energy in mind, taking the customer all the way to zero net energy unlike direct install only energy efficiency programs of the past. The delivery approach also is expandable to include water energy nexus opportunities with water agencies as these arise. The delivery approach also includes SDG&E ESA enrollment in both the multifamily and manufactured housing market segments by the implementer’s certified SDG&E ESA associate. Another example of innovation is the technology deployed unites demand response and energy efficiency in one seamless visit. Finally, the marketing strategy transitions from direct install outreach to ASHRAE Level 1 audits and sales consultations.

The program goes well beyond direct install to achieve zero net energy. Customers will have the choice to go beyond direct install and it is understood that initially many will decide to not

move further. The transformational process will take time and the RZNET program is the catalyst to set the transformation into motion. Figure 4(a) illustrates how the program's innovative approach takes the customer down the path of zero net energy in a simple yet effective way.

Figure 4(a)



The metrics used to track the progress of the program's innovative aspects include the key performance indicators of demand response enrollment, conversion to ASHRAE Level 1 Audit and Sales Consultations, and conversion to additional energy efficiency, renewable, and storage sales.

5. Metrics

Provided are the metrics that will be used to track program progress:

- Program Performance
 - Savings to Goal (kWh, kW, therms)
 - TRC Ratio
 - Passed Inspections
 - Short, Mid, Long Term Outcomes
- Financials/Savings
 - Savings Claimed
 - Budget Spent
 - Savings/Budget Alignment
- Customer Satisfaction
 - Responsiveness to Customer Leads

- Complaints Received
- Compliance
 - Reporting Accuracy
 - HTR/DAC Penetration
- Marketing
 - Multifamily Units Treated
- Supply Chain Responsibility
 - DBE Commitment
- Innovation
 - Conversion Rate of Renewable and Storage Sale

6. For Programs Claiming To-code Savings

The RZNET claims savings above code standards.

7. Pilots

The RZNET has no pilots planned, however it is open to pilots in the future and the implementation plan would be updated accordingly.

8. Workforce Education and Training

The workforce assigned to the RZNET will be enrolled in education and training courses held by SDG&E virtually or at the Sustainability Center. The program will expand/initiate partnerships with entities that do job training and placement.

9. Workforce Standards

Implementation of the RZNET requires a CSLB license with B – General, C2 – Insulation, C10 – Electrical, C17 – Glazing, C20 – HVAC, C22 - Asbestos, C36 – Plumbing, and C46 – Solar certifications to implement the program’s scope. The program also requires that the implementer carry at least a B grade with ISNET world.

State law and the Contractors State License Board require all Bidders and their subcontractors to hold valid contractor's licenses prior to submitting an abstract or a proposal for work that is subject to license requirements (California Business and Profession Code, Sections 7026, 7027.1, and 7028(a)). The implementer complies fully with these requirements holding all the licenses necessary to perform the quality installation of all direct install, advanced energy efficiency, renewable, and storage technologies

10. Disadvantaged Worker Plan

The proposed program supports job access for disadvantaged workers by interviewing individuals in the circumstance defined as a "disadvantaged worker" and providing an equal employment opportunity for the position desired. The implementer currently employs workers that meet these criteria. The implementer keeps a log of employees that met the disadvantaged worker status at the time of hire to satisfy metric reporting requirements.

11. Single Point of Contact (SPOC) Integration Plan

The purpose of the SDG&E Residential Zero Net Energy Transformation Program marketing plan is to take multi-family and manufactured housing communities and ratepayers down the path of zero net energy all while delivering a cost-effective direct install resource program.

The SPOC marketing plan goals and objectives are outlined in table 11(a) below.

Table 11(a)

Goals	Objectives
Increase Energy Efficiency Savings through an Improved Customer Experience	<ol style="list-style-type: none"> 1. Connect multifamily property owners/operators with the SDG&E Single-Point of Contact (SPOC). 2. Provide a common pathway for additional information about the residential statewide programs, time-of-use (TOU) strategies, DR programs, and My Account Enrollment. 3. Leverage RZNET with SDG&E ESA to maximize comprehensiveness for the SDG&E customer and improve the customer experience.
Increase Energy Efficiency Participation in the Multifamily Sector	<ol style="list-style-type: none"> 1. Market the program to multifamily owners and operators first (Top Down Approach) before marketing to residents to develop and execute community participation strategies. 2. Leverage long-term working relationships of trust with existing multifamily partnerships to guide them down the path of zero net energy. 3. Find and enroll hard-to-reach customers to participate in the program and have these account for at least 15% of all program participants.
Continue to Innovate by Executing New Approaches in the Market	<ol style="list-style-type: none"> 1. Provide no cost ASHRAE Level 1 audits and advanced energy efficiency and renewable sales consultations as part of the no cost direct install measure offering to advance zero net energy progress within multifamily communities. 2. Integrate San Diego County and South Orange County available water agency and AQMD offerings with program offerings. 3. Enroll customers virtually as part of intelligent outreach and provide program kits and virtual installation guidance for the kits as part of direct install approach to adapt to a post COVID – 19 marketplace.

The RZNET will target the following audiences:

1. Multifamily owners and operators (includes manufactured housing communities)
2. Multifamily residents (includes manufactured housing residents)

The goal is to ensure increased energy efficiency to the target audiences through an improved customer experience, increased participation, and innovative marketing approaches.

The SPOC marketing strategies and tactics are outlined in table 11(b) below.

Table 11(b)

Marketing Strategies and Tactics	Approach
Market the Program to the Decision Maker	Arrange virtual and in-person meetings with multifamily owners and operators.
Convert Direct Installation Visits into No Cost Zero Net Energy Consultations	Skilled and trained energy advisors that are BPI certified, attend Synergy University ZNE Trainings, and outside sales courses transition the program direct install participant to the ZNE path and advanced EE sales consultation.
Focus on hard-to-reach (HTR) customers so that at least 60% of all program participants are HTR	SB 535 disadvantaged community (DAC) overlay maps on mobile devices identify the greatest HTR opportunities in SDG&E’s service territory and intelligent direct outreach to the identified areas with SDG&E program collateral ensures a high program take rate in HTR zones.

The program messaging is “The path to zero net energy and a clean energy future begins with the Residential Zero Net Energy Transformation Program”. Program participants will receive no cost energy efficiency measures and an optional no cost zero net energy home consultation to understand the steps necessary for their home to be ZNE and contribute to a clean energy future. MF/MH owner/residents will be explained what Residential Zero Net Energy transformation means for them and why it is desirable. Through the audit tool information is gathered and a zero net energy roadmap is created for the customer to ensure their understanding and why they should begin. The SDG&E SPOC is available to support the ZNE process.

Marketing materials and collateral consist of a program door hanger, program flyer, and program web page on SDG&E’s website. The marketing materials and collateral will be produced in languages other than English.

The COMPANY and implementor meet monthly virtually or in-person as part of the stakeholder engagement plan. In the meeting, marketing plan elements are discussed and evaluated to measure the effectiveness of the marketing strategies and progress toward meeting marketing plan goals.

Supporting Documents

The following documents are included in the Implementation Plan:

Program Manuals and Program Rules
Program Theory and Program Logic Model
Process Flow Chart
Incentive Tables, Workpapers, Software Tools
Quantitative Program Targets
Diagram of Program
Evaluations, Measurement & Verification (EM&V)

RZNET Program Manual



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1. Introduction

Multifamily and manufactured housing communities have goals and plans to be more energy efficient and even achieve zero net energy, however with so many choices and options it is difficult to decide the best path forward. The Residential Zero Net Energy Transformation (RZNET) program is the place for multifamily and manufactured housing communities to begin their Zero Net Energy journey. RZNET provides interested multifamily and manufactured housing communities complimentary ZNE audits, no cost direct install energy efficiency technologies, advanced energy efficiency that can be financed, renewables, and storage that can also be financed.

2. How the Offering Works

The path to ZNE begins by scheduling an appointment for the installation of no cost approved HVAC, lighting, water heating, and pumping technologies that excite program participants about saving energy and zero net energy. During or at the conclusion of the no cost energy efficiency measures installation appointment, the program participants are invited to participate in a complimentary ASHRAE Level 1 Audit and Sales consultation to identify opportunities for even greater energy efficiency savings, renewables, and storage that can be financed. The audit findings are reviewed with the multifamily or manufactured housing communities' owners and operators to develop a ZNE roadmap and determine the next steps.

3. Eligibility for Participation

RZNET is available to residential multifamily and manufactured housing customers that have an active SDG&E account. Customers that are on a commercial rate may qualify for common area measures if certain requirements are met. Customers are not eligible to receive a rebate for the same measure(s) prior to EUL of the equipment.

3.1 Participation in Other Programs

If a customer has received an incentive or services from another state or local Public Goods Charge (PGC) program, they are ineligible to receive a rebate for the same product(s). Conversely, if they receive a rebate from Energy Efficiency Business Rebates, they are ineligible to receive additional incentives or services from other state or local PGC program for the same product(s).

3.2 Financing

Through CHEEF and gogreen financing, the Affordable Multifamily Financing (AMF) program helps owners of qualifying master-metered multifamily properties make energy efficiency upgrades. The program leverages private capital to provide attractive financing for energy retrofits in properties where at least 50% of the units are income restricted. Both common area and in-unit projects qualify. Financing may include solar and battery storage. Owners can choose to repay their financing in two ways: 1. Direct to finance company or 2. On-bill repayment for master-metered multifamily properties.

Owners of manufactured housing units may acquire their own financing through their lending institution of choice or qualify for EGIA financing provided by the implementer.

4. Approaches to Energy Efficient Buildings

The approaches to energy efficient buildings consist of Direct Install, ASHRAE Level 1 Audits, Advanced Energy Efficiency, Renewables, and Storage. NMEC also plays an important role for future measure development and energy savings preservation to achieve energy efficient buildings.

4.1 Direct Install

All program participants enter the pathway to Zero Net Energy through the direct install channel. The no cost direct install technologies include approved HVAC, lighting, water heating, and pumping technologies.

4.2 ASHRAE Level 1 Audits

During the direct install visit, the program participants are invited to participate in an ASHRAE Level 1 Audit and sales consultation the same day or a later date. The audit reveals advanced HVAC, water heating, lighting, renewable, and storage opportunities for the customer that can be financed. These opportunities are presented to the decision maker and a timeline, roadmap, and next steps are established.

4.3 Advanced Energy Efficiency

Advanced HVAC, water heating, and lighting technologies that are energy star are installed following applicable workforce standards, local, and state regulations and guidelines.

4.4 Renewables and Storage

Renewable and storage technologies are installed following local and state regulations and guidelines.

4.5 Site-level NMEC

The goal of using the site-level NMEC approach is to create a “Deemification” pathway where newly proposed innovative measures and the associated data can be assessed and considered to becoming a deemed workpaper measure on some future date.

5. Inspections

Quality measure installation training and quality installation field managers ensure measures are installed to the customer's satisfaction and provide safe, clean, reliable energy savings. To ensure high production quality and customer satisfaction, full-time quality production managers physically inspect a minimum of 10% of all jobs completed on the program.

The QPMs also actively resolve customer questions and concerns regarding workmanship and warranty. The QPMs ensure that measures are installed properly and perform as they should while doing a physical inspection of the work. These managers focus on maintaining an overall pass rate of 95% on all measures and services inspected. Synergy uses the Synergy Tech System® to capture measure installation data in the field securely and electronically transfer the data for invoicing and energy savings reporting.

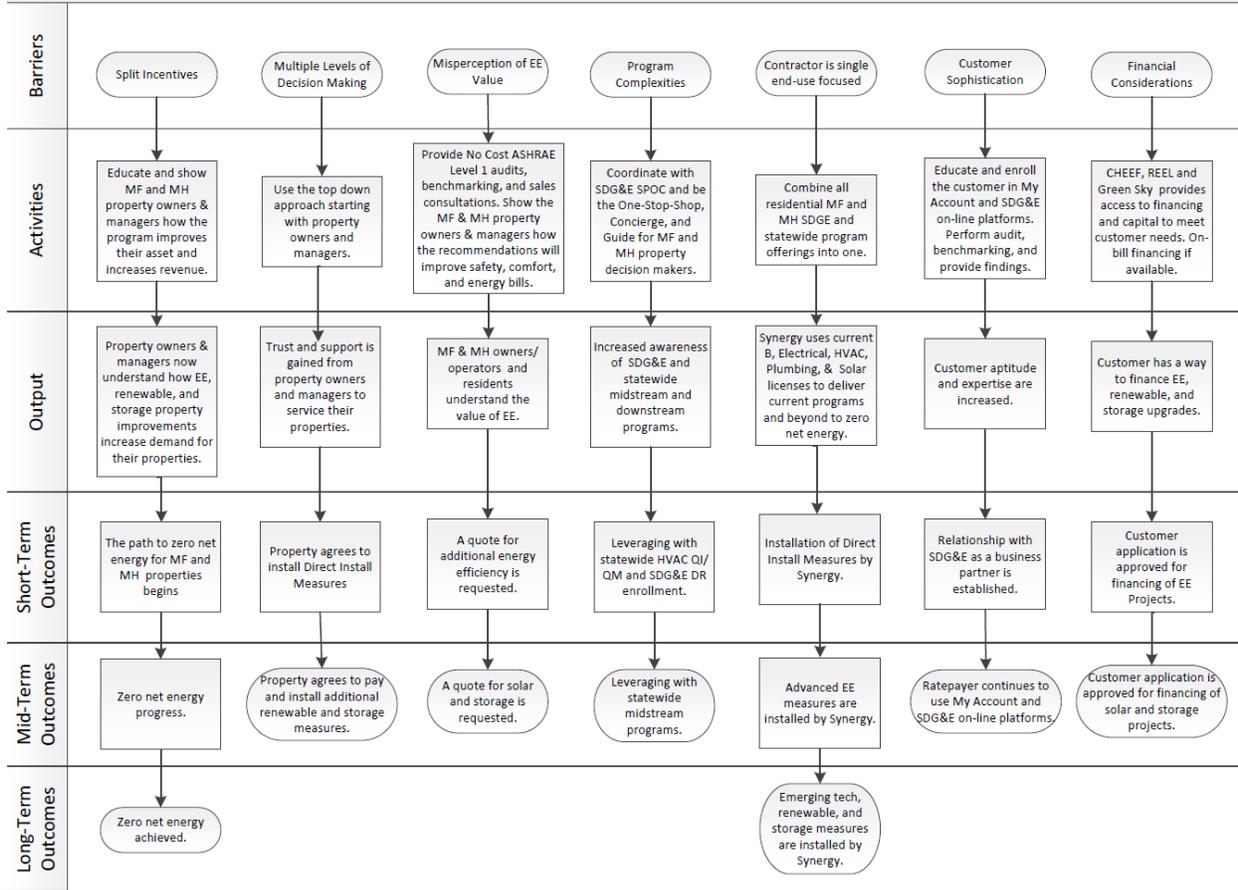
Every two weeks Synergy Managers hold on-site trainings with Synergy outreach and technicians at the San Diego company facility and review industry changes/trends that have been emailed and communicated throughout the weeks and provide program specific trainings. Each position has a checklist of skills and knowledge to master and pass off. Synergy employs a full-time safety and compliance director that reviews and directs compliance with applicable laws and regulations.

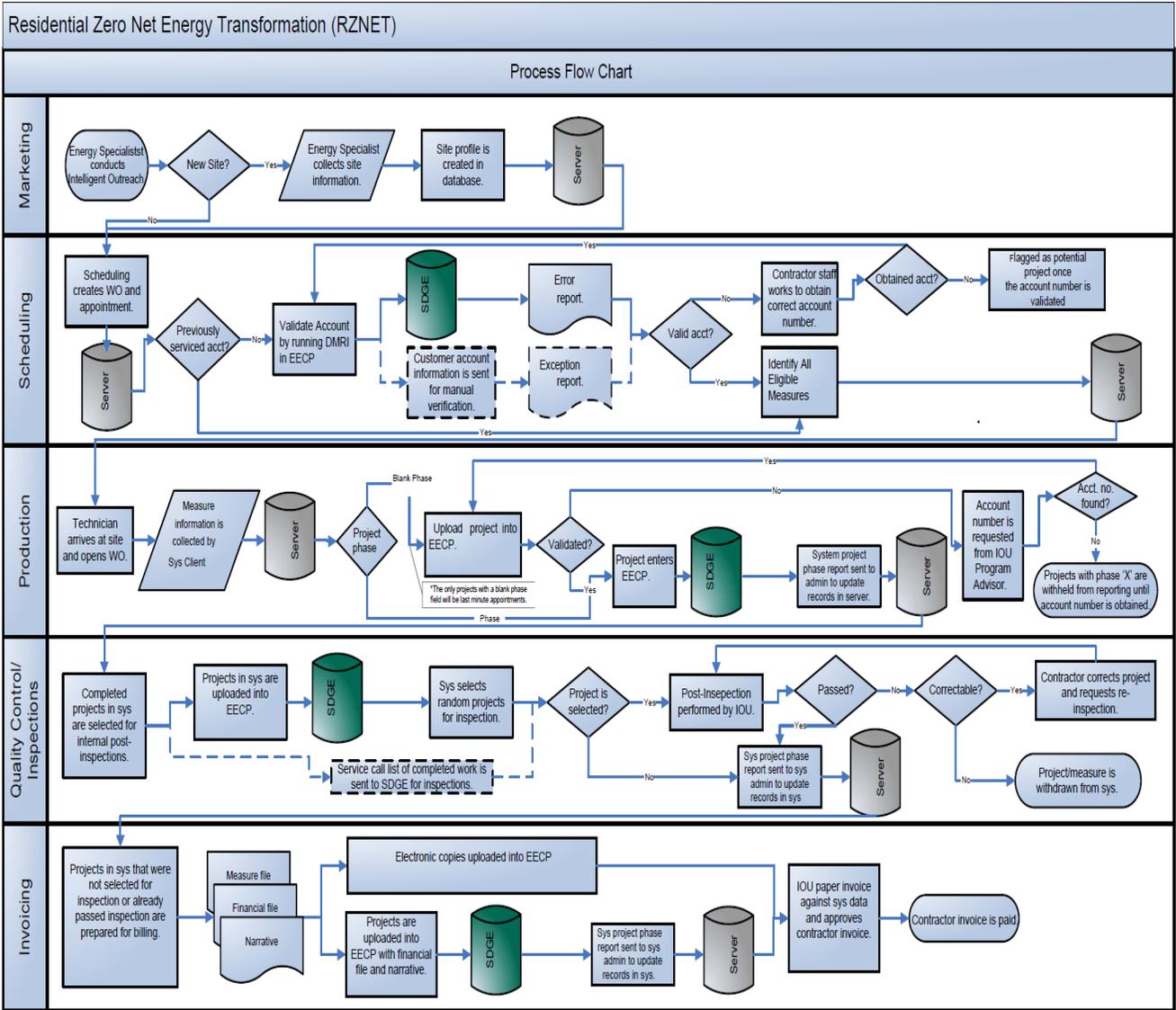
6. How to Apply

Interested SDGE multifamily and manufactured housing customers may apply by calling Synergy Companies at (888) 272-8394. Interested customers may also apply online at www.synergycompanies.org.

Logic Model Visualization – RZNET (Residential Zero Net Energy Transformation)

Synergy





Program Measures, Incentive Levels, and Energy Savings Source

Program Measures, Incentive Levels, and Energy Savings Source				
Approved Measure	Payment Unit	Saving Unit	Contractor Payment	Workpaper Reference
Fan Delay (Cycle Off) Controller for Residential Air Conditioners	P4P	kWh, Kw and/or Therm per unit	P4P	SWGC029-01
LED T8 Lamp UL Type A 4 foot (Common Area)	P4P	kWh, Kw and/or Therm per unit	P4P	SWLG009-01
Central brushless fan motors (BFM or DC Motor)	P4P	kWh, Kw and/or Therm per unit	P4P	SWHC038-01
Duct Test & Seal: High-to-Low	P4P	kWh, Kw and/or Therm per unit	P4P	SWSV001
Duct Test & Seal: Med-to-Low	P4P	kWh, Kw and/or Therm per unit	P4P	SWSV001
Residential Smart (Communicating) Thermostat	P4P	kWh, Kw and/or Therm per unit	P4P	SWHC039-03
Low Flow Showerhead 1.5 GPM	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH002-01
Faucet Aerator Kitchen Sink 1.5 GPM	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH001-01
Faucet Aerator Bathroom Sink 1.5 GPM	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH001-01
Thermostatic Shower Valve	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH003-01
Auto-Diverting Tub Spout-Thermostatic Shut-off Showerhead	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH023-01
Increase Refrigerant in System with No TXV	P4P	kWh, Kw and/or Therm per unit	P4P	SWSV006-01
Coil Clean	P4P	kWh, Kw and/or Therm per unit	P4P	SWSV004-01
Air Flow Adjustment	P4P	kWh, Kw and/or Therm per unit	P4P	SWSV009-01
LED T8 Lamp UL Type A 4 foot (Common Area)	P4P	kWh, Kw and/or Therm per unit	P4P	SWLG009-01
Pipe Insulation - Com Hot Water >= 1 pipe Outdoor	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH017
Pipe Wrap, Residential Outdoor	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH026-01
Pipe Wrap, Residential Indoor	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH026-01
2-inch-thick Tank insulation - Medium Temp High Usage Outdoor	P4P	kWh, Kw and/or Therm per unit	P4P	SWWH018-01
Variable Speed Drive Pool Pump	P4P	kWh, Kw and/or Therm per unit	P4P	SCE17WP008-02

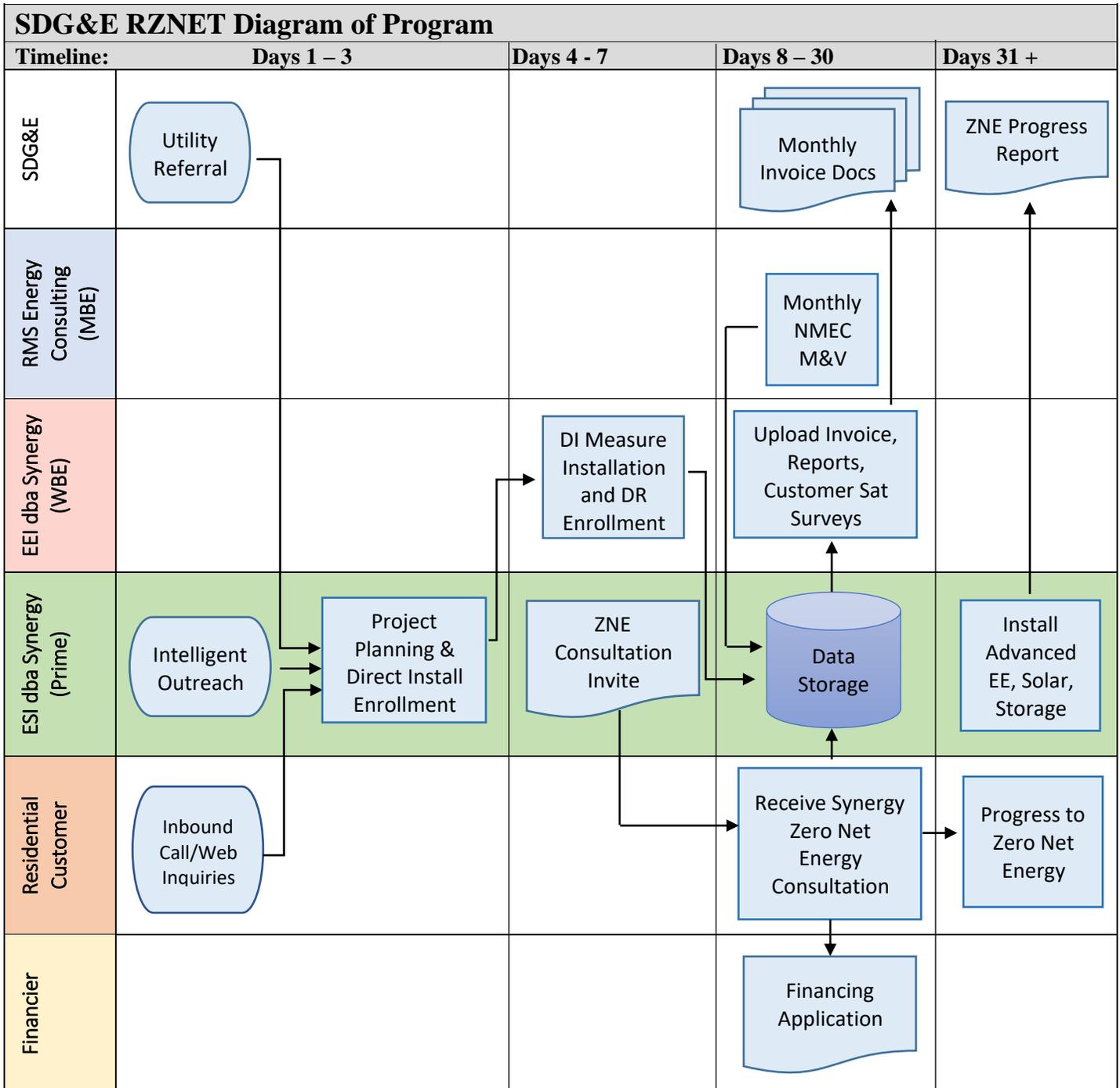
<http://deeresources.net/workpapers>

Quantitative Program Targets

Total kWh Energy Savings (First year, net)	2,709,073
Total kW Energy Savings (First year, net)	856
Total therms Energy Savings (First year, net)	665,901
Hard to Reach (HTR) Customers ¹ . Provide forecasted total number of HTR customer accounts (by customer segment) receiving program and total savings (net first year kWh, kW, and therms) to HTR customers from program over all years program in effect.	Sites - 1,464 Sites kWh – 1,318,199 kW – 476 Therms – 314,951
Disadvantaged Community (DAC) ² Customers. Provide forecasted total number of DAC customer accounts (by customer segment) receiving program and total savings (net first year kWh, kW, and therms) to DAC customers from program over all years program is in effect.	Sites - 65 kWh – 58,587 kW – 21 Therms – 13,998
Forecasted Number of Customers Served by Program Year	2021 – 3,253 2022 – 3,253 2023 – 3,253
Area(s) Served (including service territory, climate zones, cities, and/or counties, as applicable)	CZs 7, 10, 14 & 15
Program TRC ratio (CET output)	1.30

Table 6(a)

Portfolio Level Diagram of Program



Explanation

The RZNET program diagram illustrates the timeline, activities, and roles of the six program actors (SDG&E, Eagle Systems International Inc. (ESI) dba Synergy, Energy Efficiency Inc. (EEI) dba Synergy, RMS Energy, Residential Customer, and Financier.

Days 1-3: Program leads begin with intelligent outreach, SDG&E utility referrals, or inbound calls and web inquiries to implementer from interested residential account owners or operators. An appointment is scheduled to qualify the site, plan the project, enroll the customer in the program, and schedule the DI services.

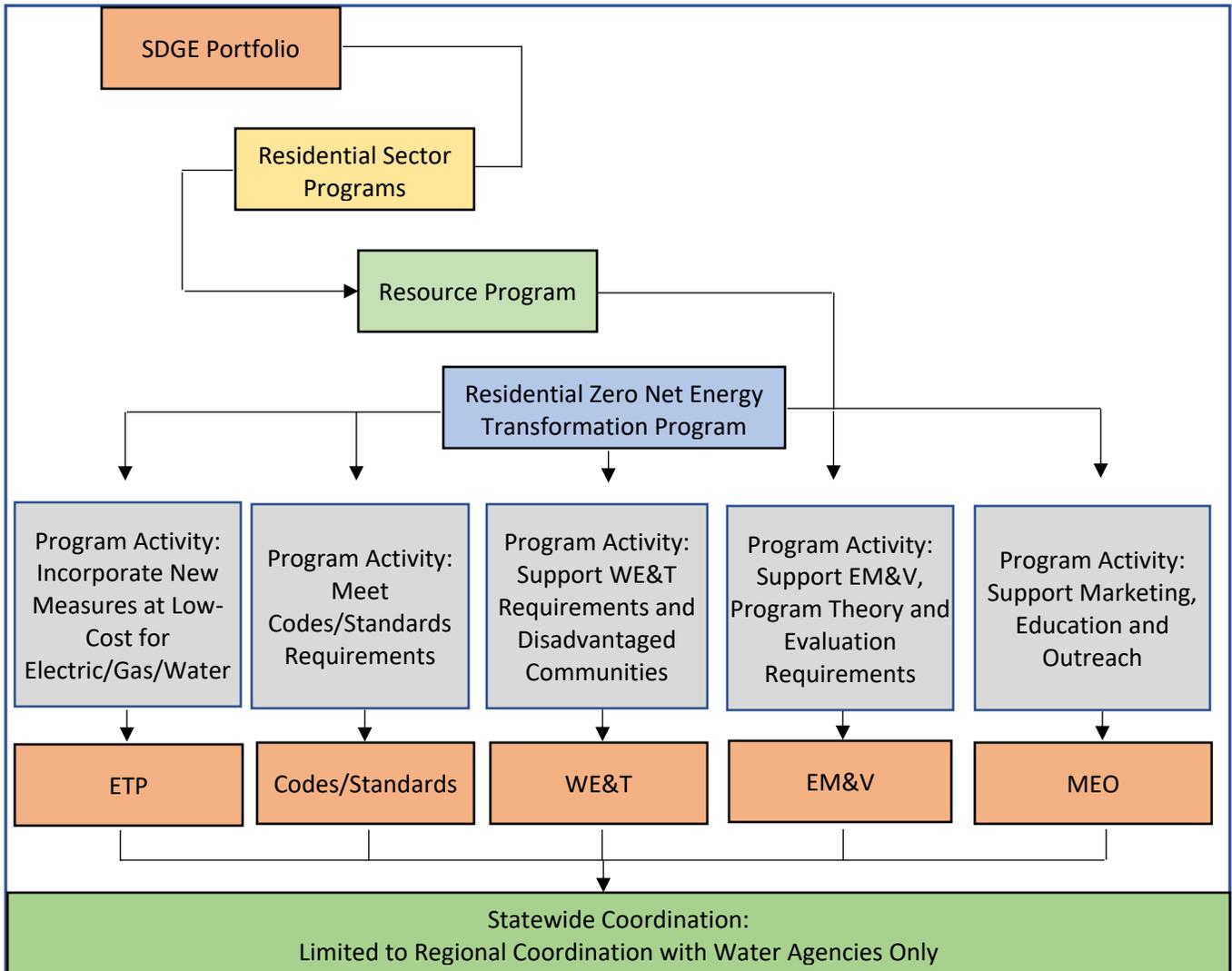
Days 4-7: The no cost direct install services are installed, and an invitation is extended to the property for a no cost zero net energy consultation.

Days 8-30: The invoice, deemed savings reports, potential NMEC reports, marketing reports, and other elements comprising the monthly report are uploaded into SDG&E's system. The residential property receives the complimentary zero net energy consultation and applies for financing through REEL, EGIA, or OBF.

Days 31+: Progress to Zero Net Energy continues as advanced energy efficiency, solar, and storage technologies are installed. Quarterly ZNE program reports are uploaded into SDG&E's system.

Table 6(b)

Portfolio Level Diagram of Program



Measurement & Verification(M&V)

Plan

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7. Data Collection Plan
8. Precision of Energy Savings Measurement
9. Key Assumptions that Support Our Level of Confidence
10. Approach to Ensure Adequate Monitoring and Documentation of Energy Savings
11. Approach to Determining EUL Values
12. The Method to Identifying and Adjusting to Non-Routine Events
13. Method for Determining Program Influence
14. Programs Targeting Energy Savings that Comprise Less than 10%
15. Details of Who Will Conduct M&V Activities
16. A Description of Who Receives Compensation at Each Stage of the Project
17. Methods and Tools Utilized in the Calculation of Incentives
18. A Description of Quality Assurance Practices
19. M&V SDG&E Form

SDG&E Residential Multi-Family M&V Plan

1. Appropriateness of Meter-based Platform

The program is primarily centered on leveraging measures from the latest CPUC approved deemed measure portfolio list. However, given the unique opportunity to bring innovative solutions to help solve SDG&E's goals, the program proposes to create a pathway where newly proposed solutions, not in existing EE programs, are introduced using the NMEC approach to help instill confidence in the energy savings method for these newly proposed innovative measures.

The meter-based approach is suitable for the program because no robust and relevant field data exists for the newly proposed innovative measures today, which require these solutions to have to go through more time consuming channels including but not limited to the Emerging Technologies (ET) or customized/calculated pathways. By including the NMEC approach into the program design, the program creates multiple benefit streams including:

1. Immediate consumer adoption.
2. Field data collection that supports future deemed energy savings estimates
3. Early collaboration with SDG&E and the CPUC's Ex-Ante Review (EAR) team on measurement and verification (M&V) plans and variables.
4. Standardized data collection procedures compliant with project energy savings estimates and supporting information that is consistent with the requirements set forth by the AB 802 legislation and the CPUC.

2. Site-level Approach Explanation

The CPUC's NMEC rulebook named Rulebook for Programs and Projects Based on NMEC Consumption dated January 7, 2020 (version 2.0), herein CPUC Rulebook, outlines both site-level and population-level NMEC approaches. Subsequent updates to the rulebook/additional guidance will be referenced and applied in the future as needed. Per the CPUC Rulebook (version 2.0), "projects and programs are referred to as "Site-Level NMEC" where the following conditions hold:

- Programs and projects meet the regulatory and filing requirements described in this document;
- NMEC methods used to determine savings are customized to the particular site and project to conform to site-specific conditions and adjust for the particular drivers of savings pertinent to the customer site and project;
- Energy Savings claims and project estimates of savings are submitted for a specific site or project; and
- NMEC-determined energy savings rely on a project-specific M&V plan, customized to the specific characteristics of the site and project.

The CPUC Rulebook further outlines Site-Level NMEC Program Level Requirements. The CPUC Rulebook's Site-Level NMEC Program Level Requirements enumerate key activities associated an associated Measurement and Verification (M&V) Plan. This includes:

1) PAs must submit a Program-level M&V Plan for each Site-level NMEC program. For third-party programs, PAs may work with – or task – Implementers to develop parts or all of the Program-level M&V Plan. However, PAs are responsible for authoring and submitting the Program-level M&V Plan for all NMEC programs (third-party and PA-implemented). The Program-level M&V Plan must be included in Implementation Plan filings for the program and must include:

- a. Methodology, analytical methods and software employed for calculating Normalized Metered Energy Consumption, as well as both gross and net savings, resulting from the energy efficiency measures installed and not influenced by unrelated changes in energy consumption.
- b. Data collection plan.
- c. Approach to ensure adequate monitoring and documentation of energy savings for each project over the reporting period.
- d. A method of identifying and adjusting for non-routine events.
- e. Method of determining program influence, either through a detailed data collection and analysis plan provided in the M&V Plan or adoption of Commission approved default NTG values.
- f. Programs targeting savings that comprise less than 10% of annual consumption must provide a rationale and explanation of how savings will be distinguishable from normal variations in consumption.
- g. A description of the incentive structure, including a) a description of which entity receives compensation at each stage of the project; and b) method(s) and tools utilized in the calculation of incentives and/or compensation;
- h. Documentation of the expected costs, energy savings, peak impacts, and effective useful life (EUL) of planned measures and intervention strategies. Include supporting documentation, work papers and/or DEER values.
- i. Describe how the project level EUL will be calculated for purposes of energy savings claims.
- j. Describe the program target population, and participant eligibility criteria.
- k. Demonstrate compliance with Decision 17-11-006 Ordering Paragraph 2 for programs targeting to-code savings. Specifically:
 - The investor owned utilities shall ensure that all program proposals and program implementation plans, for programs that target (or will claim) to-code savings, describe what program design elements, data collection activities, and/or analyses will be conducted to help lend insight into the following questions as part of the planned implementation of the proposed program:
 - Where does the to-code savings potential reside?

- What equipment types, building types, geographical locations, and/or customer segments promise cost-effective to-code savings?
 - What kinds of barriers are preventing code-compliant equipment replacements?
 - Why is natural turnover not occurring within certain markets or for certain technologies?
 - What program interventions would effectively accelerate equipment turnover?
1. A copy of any Bid M&V Plan submitted by third-party implementers in their bid.
 - m. Any other item as required by this rulebook and other applicable rules.
 - 2) Third-party implementers shall provide an M&V Plan as part of their bid package. The Bid M&V Plan in bid packages must include, at a minimum:
 - a. A description of the program target population and participant eligibility criteria;
 - b. Documentation of the expected costs, energy savings, peak impacts, and effective useful life (EUL) of planned measures and intervention strategies;
 - c. Identification of the method(s) and calculation software that will be used to calculate savings, including required information as outlined elsewhere in this rulebook; and
 - d. Approach to ensure adequate data collection, monitoring and documentation of energy savings for each project over the reporting period.

Based on the CPUC Rulebook’s guidance on Site-Level NMEC, this program proposes to use a site-level meter-based data collection approach for individual buildings with ideally existing revenue grade meters. For customers that do not have revenue grade meters, the program will use redundant revenue grade data acquisition meters and systems to ensure data collection accuracy in daily, hourly, or sub-hourly time (15 minute) intervals. The goal of using the site-level approach would be to create a mutually agreed upon “Deemification” pathway where newly proposed innovation measures and the associated data could be assessed and considered to becoming a deemed workpaper measure at some future state.

(a) Methodology

The program will leverage the latest version of IPMVP and/or ASHRAE guideline 14 (where appropriate) to establish a normalized baseline. Baseline data collection activities to help establish baseline conditions include a pre-installation inspection will be conducted to assess baseline conditions where building parameters, operations, historical billed usage, and other relevant data will be obtained. This will help determine which variables are needed to be instrumented for the baseline period.

(b) Analytical Methods and Tools

Revenue grade 3-phase data acquisition meters and systems will be used to collect energy data with redundant sensors in conditioned or unconditioned spaces where appropriate. For weather dependent measures, the project team will also leverage local weather station data and compare it against CPUC approved DEER weather files to normalize both baseline and measure case energy consumption as a non-routine independent variable affecting energy consumption. Once baseline and measure case data sets have been normalized using weather data and DEER weather files, a regression data analysis will be performed using MS Excel to ensure that there is a correlation with outside temperature with the newly proposed innovative weather dependent measure. Minimum sampling rates and confidence intervals will be established as part of the M&V plan before energy savings estimates are analyzed.

3. Population-level Approach Statement

The program does not plan to use a population-level approach at this time. However, if SDG&E and/or Commission Staff desire that the program evolve to collect data using a population-level approach, the program is flexible to consider adapting to meet SDG&E's regulatory needs to make the program as cost-effective as possible. In the event that circumstance arises, the program will adjust to regulatory desired mandates and proposes to use based on the recommendations outlined in the NMEC working group document or the controlling guidance document outlining the population-level approach requirements.

4. Supportive Available Evidence and Research

Our engineering subcontractor, RMS Energy Consulting, LLC, has a well-established record of accomplishment within the California investor-owned utility (IOU) space related to demand-side management (DSM) activities including conducting various meter-based studies for deemed, custom and emerging technology measures. The evidence used in the studies RMS led independently validated energy savings estimates using IPMVP Option C as recommended by Lawrence Berkley National Laboratory's (LBNL) Site-Level NMEC Technical Guidance for Program M&V Plans Using NMEC Savings Estimation (version 2.0) dated December 15, 2019. and/or ASHRAE Guideline 14. When appropriate, additional submetering maybe required in certain instances to isolate the energy efficiency measure (EEM) from the whole building to confirm and isolate that the energy savings are directly attributed from the EEM. Thus, the comment on using IPMVP Option B was considered under those circumstances.

These validated emerging technologies (ET) studies, custom projects or deemed workpaper reports exhibited that RMS used industry accepted IPMVP or ASHRAE 14 guidelines to ascertain the energy savings estimates using revenue grade data acquisition meters to collect power data and weather station and/or DEER weather data as the independent variable to perform the regression analysis to determine the normalized baseline and energy savings estimates.

For example, the ASHRAE 14-2014 guideline sets forth instrumentation and data management guidelines and describes methods for accounting for uncertainty associated with models and measurements. The ASHRAE guideline specifies three engineering approaches to M&V, which is similarly close to IPMVP. Compliance with each approach requires that the overall uncertainty of the savings

estimates be below prescribed thresholds. The three approaches presented are closely related to and support the options provided in the International Performance Measurement and Verification Protocol (IPMVP) Option B Retrofit Isolation), except that Guideline 14 has no parallel approach to IPMVP. Thus, where appropriate, ASHRAE Guideline 14 may be used in place of IPMVP to ensure data accuracy and relevancy.

5. Past Examples of Successful Projects or Programs

HVAC Retrofit Zone Control ET Assessment

The RMS team recently assessed a new HVAC retrofit control technology for commercial rooftop package units and heat pumps supporting the ET program. This ET study used ASHRAE Guideline 14 rather than IPMVP Option B because ASHRAE 14-2014 guidelines (section 4.5.1) recommends that the HVAC equipment involved in the field study should be commissioned and maintained to ensure they function within the limits contemplated in the M&V. Based on this guidance, the RMS project team selected a qualified HVAC maintenance installer, from an IOU's approved HVAC Optimization list, to commission the RTUs under test before the EE retrofit measure was installed. In this situation, ASHRAE Guideline 14 was more appropriate compared to IPMVP and the program would confer with SDG&E and the EAR team before determining, which M&V method to use for newly proposed innovative measures.

ASHRAE Guideline 14-2014's Retrofit Isolation Approach measures the energy use and relevant independent variables (i.e. outdoor air temperature, desired thermostat temperature) of the individual systems and equipment (i.e. RTU) affected by the retrofit. Measurements of baseline and post installation energy were required. The duration of the measurements must be sufficient to capture the full range of operating conditions.

Normalization of the measured energy use is usually required to account for differences in the operating conditions and to extrapolate measurements taken over a minimum of 12 months of baseline and a minimum of 12 months of post retrofit monitoring and data collection to represent annual energy use in both baseline and post retrofit scenarios. The measurements may be normalized to the conditions during the baseline period or the actual post installation operation conditions. If neither baseline nor post installation conditions are representative of typical operating conditions, it may be necessary to define and use "normal" operating conditions.

Savings are determined by comparing the normalized baseline and post installation energy uses by using sub-metering equipment including 3-phase electrical power meters and zonal space temperature/RH sensors.

Key Similarities and Differences

(a) Key Similarities

The key similarities between how these projects were executed with this program design include the implementation of industry accepted M&V protocols outlined in IPMVP and/or ASHRAE Guidelines because the scientific rigor, sampling and confidence in these guiding best practice documents provide a level of certainty with the energy consumption and energy savings estimates.

(b) Key Differences

The key differences between how these projects were executed compared to this program design include the proposal that early M&V planning with regulating entities and SDG&E, would occur to appropriately document project influence and ensure alignment on desired data collection parameters needed to shield project implementation energy savings from potential net-to-gross (NTG) free ridership and/or gross realization rates (GRR) deration.

(c) Why Examples are Relevant and Informative

The projects described are relevant because the methods, tools, and techniques align with industry accepted measurement and verification protocols, AB 802 goals of doubling energy efficiency savings and is bounded by the NMEC guidelines that ensures transparency and accuracy of energy savings claims protecting the interests of various stakeholders including SDG&E, regulators, intervenors, manufactures and most importantly program participants. The projects described are informative because it appeals to the interests of various stakeholders where the information presented is appropriately exhibited to ensure that there is a relevant and appropriate connection to all audience levels where benefits and costs are easily understandable and transparent.

6. Key Data Points Needed to Calculate Energy Savings

Examples of key data points needed to calculate savings based on the project-specific M&V plan include:

- Electrical power and energy data including kW, kWh, amperage, power factor, and voltage
- Internal space temperatures
- External weather station or DEER temperature data
- Occupancy data
- Other parameters that may serve as inputs to estimate baseline or measure case consumption where applicable such as but not limited to on-site solar generation, gpm, cfm, pressure, and gallons.

7. Data Collection Plan

This program design will not focus on sites with rooftop solar PV as part of the NMEC study. However, if customers enrolled in the program decide to adopt renewable generation after program enrollment, this program will meter those renewable generation loads when applicable. To successfully capture the information outlined above, some of the key data points needed to be collected in the data collection plan include but are not fully exhaustive to:

- Details of baseline conditions and data collected as outlined in Section 6.
- Details of post retrofit installation conditions as outlined in Section 6.
- Documentation of all assumptions and sources of data
- Significant independent variables
- Items to be verified and timeline
- Resources conducting the M&V activities
- Schedule for all M&V activities

(a) Data Collection Plan Approach

The recorded kW data and temperature data will be checked on a minimal acceptable basis determined by SDG&E and/or regulatory bodies. Any anomalies in the data will be investigated immediately, and any data reporting problems will be corrected. A log of all data reporting problems and corrections will be kept for review by SDG&E.

The RMS team will conduct a pre-screening of the monitoring and weather data to verify that all needed data is available and to identify any anomalous data points which may bias the analysis. The RMS team will investigate anomalous data points to determine the cause and if applicable, may treat the data points as outliers if they can be explained, i.e. equipment failure, unusual event, etc. A list of all outliers and an explanation of why the points were treated as outliers will be included with the results. When eliminating an outlier from the data set, the RMS team will substitute average data from other days for the same time period. This treatment of outliers is consistent with the procedures included in the appropriate industry guidance document such as IPMVP and/or ASHRAE Guideline 14.

In the event of missing temperature data from the KSDM weather station, data from the next closest weather station will be substituted in the analysis. A log of all data reporting problems and the corresponding corrective actions will be kept for review by SDG&E. Accuracy requirements for all power monitoring devices are specified as being within +/- 2% of true reading. The accuracy requirement for the temperature readings is +/- 1°F.

The RMS team will provide documentation on the actual implementation of the metering plan, including specifics related to any change in the type of metering equipment, monitoring points, the monitoring schedule, and the data collection procedures. This information will be reported along with estimates and calculations of energy savings in the M&V Report.

(b) Challenges that May Arise

- Inability to conduct M&V project activities during normal business hours, nights and/or weekend due to customer operational constraints.
- Customer IT firewall issues preventing data upload from cloud-based data acquisition systems.
- Customer contact personnel turnover.
- Missing data due to connectivity issues.

8. Precision of Energy Savings Measurement

This program design proposes to adhere to the modeling narrative guidance outlined in LBNL's Site-Level NMEC Technical Guidance for Program M&V Plans Using NMEC Savings Estimation (version 2.0) dated December 15, 2019. Subsequent updates to the LBNL guidance document will be referenced and applied in the future as needed. The M&V approach, mathematical modeling approach, building characteristics, dependent variables, and independent variables will all be described with specificity in the M&V plan before regression analysis are performed using a bin simulation method where field power/energy metered data is collected along with weather station data to perform the regression analyses for weather dependent measures. Based on minimum sampling data collected, the Synergy Team uses bin simulation spreadsheets to quantify coefficient of variance, NMBE, R-squared values, and other pertinent variables needed in the NMEC approach. Based on the Lawrence Berkeley National Laboratory (LBNL) The program will be able to state the actual savings based on using the following sampling approach:

- Defining and determining the targeted homogeneous customer population suitable for newly proposed innovative solution adoption.
- Estimating the coefficient of variance based on the premise that the statistical confidence level has been defined at 90%.
- Conducting measurement sampling to satisfy the 90% statistical confidence level requirements.

- Calculating the actual coefficient of variance using regression and uncertainty calculation spreadsheets to ensure that actual measured savings are within 10% based on the 90% statistical confidence level requirement.
- Performing regression analyses to confirm the relationship between energy consumption (baseline and measure case) with independent variables such as but not limited to outdoor weather, building occupancy and operational conditions such as production hours and volume. The regression analyses performed will assess the hourly energy consumption of the end-use system after the newly proposed innovative solution has been installed to closely follow independent variables such as outdoor air temperature or occupancy. However, if it is deemed that regression analyses for whatever reason cannot be successfully performed because variables cannot be identified that affects energy consumption, a building energy simulation and calibration approach (or equivalent tool) may be considered as an alternative solution to confirm the energy savings estimates.

9. Key Assumptions that Support Our Level of Confidence

- All significant non-routine variables that may impact energy consumption would be identified and collected including but not limited to weather, occupancy, and customer production schedules.
- Revenue grade data acquisition metering instrumentation and systems would accurately measure dependent variables to ensure precision and confidence in the data collection process.
- A large enough measurement sampling increases the confidence in data precision
- Missing data from the data collection process would be transparently assessed and explained before data is removed from the overall dataset due to error or bias.
- Data would be analyzed monthly or another reasonable frequency to allow for adjustments in the M&V plan and implementation.
- To achieve a 90% confidence level with a 10% precision, a coefficient of determination greater than or equal to 0.75 and a coefficient of variance is less than 0.2, statistical sampling techniques and other assumptions required to calculate savings will be negotiated, agreed upon and confirmed before any field data collection efforts began to ensure alignment on M&V expectations.

10. Approach to Ensure Adequate Monitoring and Documentation of Energy Savings

The RMS team will compare energy use from utility interval metered or data acquisition sub-metered data with the utility bills to ensure adequate monitoring and documentation of energy savings for each project that occurs during the reporting period. The RMS team will select a revenue grade data acquisition system that allows for a cloud based remote retrieval platform that allows for hourly, daily, weekly, or monthly downloads to occur. Subsequently, the data will be checked against utility bills or other relevant sources to ensure both precision and confidence levels are achieved. If necessary, the RMS team will conduct a calibrated model that may be adjusted and calibrated where the normalized mean bias error (NMBE) of the predicted annual energy consumption is 10% or less based on the utility bills and the acceptable monthly coefficient of variation of the root mean square error (CVRMSE) is 15% or less (ASHRAE Guideline 14).

11. Approach to Determining EUL Values

The program proposes to use DEER approved EUL values for the purposes of furcating as well as claims. However, if there is an opportunity to collect additional data that can help support a higher EUL value before, during and after post-retrofit installation, the program proposes to take proactive approach to document existing conditions to support future EUL persistence studies.

12. The Method of Identifying and Adjusting for Non-Routine Events

(a) Identification

As part of the initial site audit and included in the M&V plan, the program proposes to formulate a checklist of typical items and variables needed to support the site-level NMEC approach including the collection of non-routine events and/or variables. The checklist ensures that non-routine variables are considered and provides a mechanism to inquire about unidentified non-routine variables not known prior to baseline data gathering including non-routine events, its root causes, its impact to baseline energy consumption and accounting for the non-routine variables in the development of the baseline model.

Non-routine variables may include but not limited to the customer facility square footage, the design and operation of newly proposed innovative solution, the number of customer production shifts, or the customer occupant types. Non-routine events may be identified by tracking energy use, by the end use customer or identified by other applicable means.

(b) Adjustment

Once all non-routine events have been identified, this program proposes to track energy performance and savings monthly to assure savings are realized. Adjusted baseline energy use will be determined by inputting the independent variables (i.e. weather) measured during the baseline data collection period into the baseline energy model. After the project team confirms that independent routine variables have been accounted and adjusted for, if additional data anomalies are seen, the project team will investigate and interview relevant customer staff using the checklist identified previously to ensure that all non-routine events have been accounted for to isolate potential variance in energy savings estimations. If and when the non-routine event has been identified, the affected data will be identified and shared with SDG&E staff before adjustments are made. Once it is agreed upon with SDG&E staff that the identified non-routine event should be removed from the data set, appropriate adjustments will be made and documented to ensure transparency.

13. Method for Determining Program Influence

Depending on regulatory requirements, the program may consider embedding early EM&V into the project implementation process. Should the need arise, the program may consider early EM&V components such as customer surveys to clearly and transparently document customer influence early in the process to help increase gross realization rates and reduce free ridership making the program more cost effective.

14. Programs Targeting Savings that Comprise Less than 10%

This program will perform an initial survey and project screening and target high energy savings potential customers that aims at achieving at or above 10% energy savings from baseline conditions. The program targets savings that are greater than 10% of total consumption and so the savings the program provides will be distinguishable from normal variations in consumption. Customers who were surveyed but screen out of the program because energy savings were forecasted to be less than 10% over baseline conditions, the program will inventory those customers and report to SDG&E accordingly.

15. Details of Who will Conduct M&V Activities

(a) PRE-M&V ACTIVITIES

The nature of the Pre-M&V activities generally entails and may include but not limited to:

- Conducting initial site visit

- Documenting operational conditions
- Developing measurement and verification plan
- Interviewing relevant stakeholders
- Identifying project risks, gaps, opportunities, and priorities
- The project site visit entails becoming familiar with existing conditions to determine which M&V method from the IPMVP would be best suited to the project. This will include an assessment of the existing conditions and baseline, the proposed equipment, and the conditions under which the equipment will operate.

(b) M&V ACTIVITIES

Either as a part of an inspection, site visit, or a visit of its own, there is a possibility of needing to perform spot-measurements, short-term monitoring, or long-term monitoring to determine the operational profile of the project. Which is required will be dependent on potential project size, equipment complexity, or custom equipment. To determine the approach to use for a project, “SDG&E’s Customized Calculation Savings Guidelines” will be consulted to ensure the required level-of-effort is used to best maximize the time spent on the project.

For measures that are not listed in “SDG&E’s Customized Calculation Savings Guidelines”, the International Performance Measurement and Verification Protocol (IPMVP) will be used to determine best practices and aid in the development of an M&V plan. The nature of the M&V activities generally entails and may include but not limited to:

- Conducting baseline power measurements including spot power measurements using power meters for both pre and post retrofit solutions.
- Include pre and post photos.
- Compare independent power measurement readings both pre and post retrofit solution.
- Capture estimated operating hours.
- Confirm that the post retrofit solution is safely and efficiently installed.
- Document ease of post retrofit installation.
- Conduct frequent communication with the stakeholders.
- Summarize and document issues and challenges throughout the project implementation process.
- Formulate risk response plan for identified risk during the M&V process.

16. A Description of Who Receives Compensation at Each Stage of the Project

Compensation and the timing are illustrated in the table below.

Table 16.1– NMEC Compensation Table to Synergy Companies

Description	Monthly Invoice	NMEC 12 Month Performance
Program Measures Installed	50% of Gross Measure Cost	Actual annual net kWh, kW, and Therms saved multiplied by each’s compensation rate (Table 16.2) subtracting the 50% of gross measure cost previously paid equals the 12 month performance compensation.

Synergy Companies is responsible for paying all subcontractors and employees regardless of the outcome of NMEC projects.

Table 16.2 – Energy Savings Compensation Table

Annual Net Energy Saving Metric	Compensation Per Metric Saved
kWh	\$0.68
kW	\$1,295.00
Therm	\$5.50

17. Methods and Tools Utilized in the Calculation of Incentives

The methods and tools utilized in the calculation of incentives are:

(a) Method

The NMEC data provided by RMS Energy Consultants to Synergy and SDG&E to determine the actual annual net kWh, kW, and therms saved is the foundation for the method of payment. This data is multiplied by the compensation rate established for the annual net kWh, kW, and therms achieved to determine total compensation earned. The compensation previously paid upfront for each measure on the project is then subtracted from the total compensation earned to determine how much is owed. Energy Efficiency Inc. provided these calculations as part of the monthly invoicing process.

(b) Tools

Revenue grade data acquisition metering instrumentation and systems accurately measure dependent variables to ensure precision and confidence in the data collection process. The data gathered from these tools is compiled for compensation calculations and reporting by Energy Efficiency Inc.

18. A Description of Quality Assurance Practices

The RMS team will collect and analyze metered or sub-metered data for both baseline and post-retrofit case scenarios. Once the field measurements are taken, data reduction and analysis will be conducted before the baseline and post-retrofit scenarios are compared. If appropriate, cost effectiveness calculations will be performed at SDG&E’s direction to assess the technology’s energy savings and cost effectiveness. After all the data has been collected, assessed and synthesized, recommendations will be provided to relevant stakeholders to make appropriate decisions.

The RMS team will go through a quality assurance peer review to ensure that the project objectives are achieved. The team will perform an uncertainty and errors analysis using IPMVP measurement and verification guidelines. If any changes are identified from the quality assurance peer review, the RMS team will make the necessary changes until it adheres to the IPMVP guidelines and meets the expectations of the peer reviewer(s). Once the peer review has confirmed the quality of the work product, the submittal package will be sent to both the customer and SDG&E via email or other secure methods.

19. M&V SDG&E Form



Instructions: This form is to be filled out by the Project Sponsor in collaboration with SDG&E Program Engineering Staff. Initial information will be provided by the Project Sponsor and submitted to Program Staff prior to the receipt of an Incentive Agreement. This form will be included as part of the Agreement.

Project Information	
Project #	
Site Name	
Site Address	
Contact Information	
Site Contact Name	
Site Contact Title	
Phone (work)	
Phone (cell)	
Email	
Pre-Installation M&V Details	
M&V Term	
M&V Start Date	
M&V End Date	
M&V Due to Utility Date	
M&V Performed By	
<input type="checkbox"/>	Hold all incentive payment until M&V is complete?
Pre-Installation M&V Process	
Required Equipment (If loaned by SDG&E please note)	
Description Data Needed	
Methodology to Validate M&V Savings	
Post-Installation M&V Process (If Applicable)	
Post-Installation Data Needed	
Post-Installation Questions to be Answered	