

Microgrid Incentive Program (MIP) Handbook

A guide for developing a multi-customer
Community Microgrid



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| October 2023

Table of Contents

Click on a section below to learn more.

TABLE OF
CONTENTS



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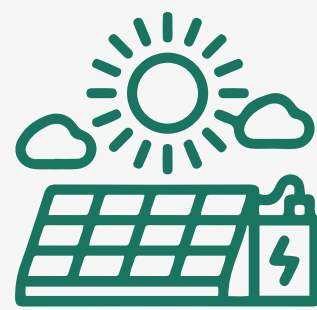
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Overview

Microgrid Incentive Program Goals:



Increase electric reliability and resiliency in disadvantaged and vulnerable communities



Distribute the benefits of clean, reliable energy equitably across the IOU service areas



Advance energy resilience technology and inform regulatory action around future clean energy initiatives

The California Investor-Owned Utilities (IOUs) are committed to delivering electric energy to customers safely and reliably. These utilities include Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric Company (SDG&E), and Southern California Edison Company (SCE).

Innovative solutions like microgrids can increase local energy resilience and reliability, and reduce emissions. Microgrids allow the three California IOUs to continue delivering electricity when customers would otherwise be de-energized due to severe weather, wildfires, or other grid conditions. PG&E, SDG&E, and SCE are working together to support the development of microgrids in disadvantaged and vulnerable communities (DVCs) most impacted by climate change.

Background

Senate Bill 1339 (enacted in 2018) directed the California Public Utilities Commission (CPUC), in consultation with the California Energy Commission (CEC) and California Independent System Operator (CAISO), to develop policies related to microgrids throughout California. **In April 2023, the CPUC approved a \$200 million Microgrid Incentive Program (MIP) to support the development of clean Community Microgrids in DVCs.**

Communities, local and tribal governments, and community-based organizations (CBOs) that are eligible for the MIP can request funding to support the critical energy needs of vulnerable populations most likely to be impacted by grid outages.

Program Funding by IOU

UTILITY	TOTAL BUDGET*
PG&E	\$87.2M
SCE	\$91.34M
SDG&E	\$21.46M
TOTAL	\$200M

*Includes utility program and administrative costs



Microgrids: The Basics

Click on a section below to learn more.



MICROGRIDS:
THE BASICS



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What is a Microgrid?

As defined by the [California Public Utilities Code](#), a microgrid is an interconnected, self-sufficient energy system within a clearly defined electrical boundary that can act as a single, controllable entity. It can connect to, disconnect from, or run in parallel with larger portions of the electric grid, and can be managed and isolated to withstand larger disturbances and maintain electrical supply to connected critical infrastructure.

Microgrids provide energy resilience by disconnecting from the larger electric grid during outages and providing power to customers within the boundary of the microgrid, leveraging energy resources such as solar panels, batteries, generators, etc.

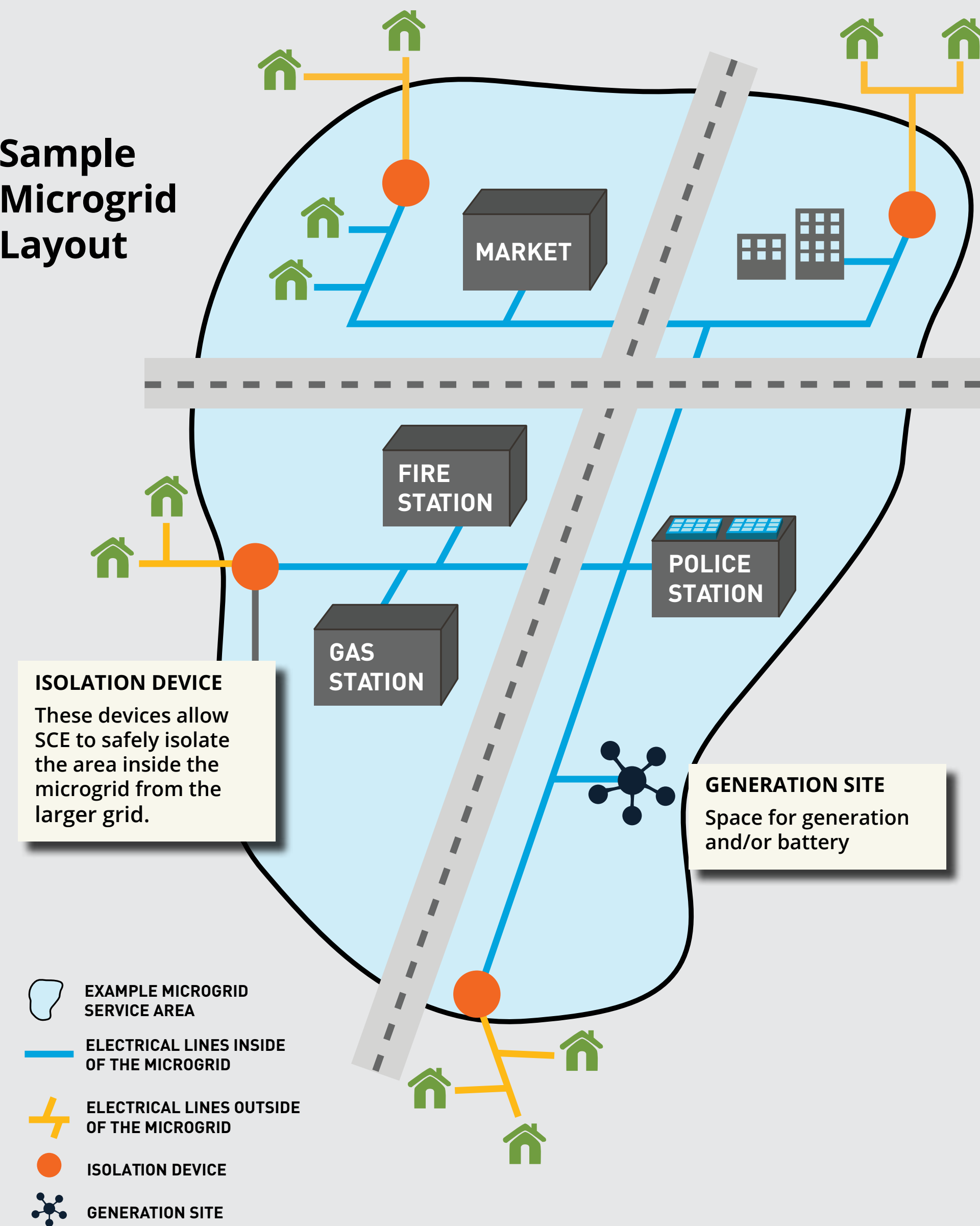
The MIP provides funding specifically for Community Microgrids. These are distinguished by a few key features:

- They serve multiple customers connected by utility distribution infrastructure.
- They typically utilize grid-forming batteries or generation resources located in front of the meter.
- They involve a partnership between a third party Distributed Energy Resource (DER), Community Microgrid Aggregator (CMG Aggregator), and the utility, as the grid owner and operator.

How Does a Community Microgrid Work?

When necessary, microgrids can become isolated energy sources and independently provide electricity when an outage of the larger grid occurs. Outages can be planned or unplanned and happen for a variety of reasons including severe weather, wildfires, a Public Safety Power Shutoff (PSPS), or for other safety or reliability reasons. When a microgrid disconnects from the larger grid during an outage, it remains energized¹. This is called Island Mode. However, the vast majority of the time, microgrids operate in Blue Sky Mode. This is when the larger electric grid is functioning under normal conditions, and resources within the microgrid boundary can generate and store energy in parallel to the grid, and participate in regional energy markets.

Sample Microgrid Layout



MICROGRIDS:
THE BASICS

Community Microgrid Benefits

As California’s climate evolves, communities may experience power outages for many reasons. Microgrids can serve as a vital layer of protection in ensuring that communities can continue to have access to safe, reliable power. Benefits include:

- Increase in electric reliability and resiliency in communities with higher risk of electrical outages
- Back-up energy source for critical services and infrastructure such as fire stations, hospitals, and water treatment facilities that might otherwise lose power during an outage
- Fewer impacts from power outages and fewer disruptions for:
 - DVCs
 - Low-income households
 - Individuals who rely on power for medical needs
 - People with other access and functional needs (AFN)
- Reduction of greenhouse gas (GHG) emissions through deployment of clean generation technologies that are added as part of the microgrid development

Common Microgrid Misconceptions

- ❓ **Will our community be able to isolate from the larger grid at will?**
No. SCE, not the community, will determine when the microgrid will be isolated from the larger grid. The purpose of a Community Microgrid is to provide energy resilience when the larger grid is down. For the safety and stability of the grid, SCE retains operational control over the islanding status of the microgrid.
- ❓ **Will separation from the larger grid only occur during a PSPS event?**
No. Separation from the larger grid, and operation of the microgrid in Island Mode, may occur for a variety reasons, including a PSPS event. It may also occur due to planned maintenance of SCE’s facilities that would otherwise require de-energization. It may also occur due to an unplanned outage.
- ❓ **In Blue Sky Mode, can stored energy be used to meet community needs?**
Project Resources, such as a battery energy storage system, may participate in the CAISO wholesale markets for energy and related services during Blue Sky and Mode. However, the local Project Resources may not directly sell power to customers within the microgrid at any time. Customers continue to be served by SCE or a Community Choice Aggregator (CCA) or Direct Access (DA) provider during both Blue Sky Mode and Island Mode.
- ❓ **Do energy rates change with a microgrid?**
The existence of a microgrid, by itself, will not modify customer energy rates. Customers within the microgrid still receive service from SCE, a CCA or a DA provider, and will be metered and billed according to their selected rate plan, whether the microgrid is operating in Blue Sky Mode or Island Mode.



What Are the Components of a MIP-funded Community Microgrid?

COMMUNITY MICROGRID



Grant up to \$14M

Allowances up to \$1M

Allowances up to \$3M

Owned by CMG Aggregator Owned by SCE

Project Resource²: A Generating Facility, storage technology, or load management technology that the Community Microgrid Aggregator has control over and are used to support a Community Microgrid. At least one Project Resource must have a plant controller and grid-forming capability sufficient to allow acceptable frequency and voltage during Island Mode operation. Project Resources are interconnected to the Distribution System within the Microgrid Boundary either directly as IFOM Project Resources or indirectly as BTM Project Resources pursuant to the WDAT or Electric Rule 21. Project Resources may or may not be owned by the MIP Awardee but are subject to the operating provisions specified in the MOA.

Balance of System: All of the microgrid components owned or controlled by the MIP Awardee, other than the Project Resources and Non-Project Resources, necessary to meet the requirements of the Community Microgrid as identified in the Microgrid Islanding Study.

Interconnection-Related Upgrades & Facilities: Interconnection Facilities owned by the Distribution Provider.

Microgrid Added Facilities: Modifications to the Distribution Provider's Distribution Facilities required to operationalize the Microgrid Boundary and Island Mode such that the microgrid can maintain voltage, frequency, and power quality in accordance with the Distribution Provider's requirements and Rule 21.



Funding

Click on a section below to learn more.

Other sources of funding may be available for your microgrid project; visit the program website for other funding opportunities.



FUNDING



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What Does the MIP Pay For?

The MIP incentive will help applicants to pay for the costs to design and develop a Community Microgrid. Incentive payments will be based on qualified expenses with proper supporting documentation. The funding falls in several categories as described below.

MIP Funding

FUNDING

Up to
\$14M
per project

Application Incentive Request (AIR)

For eligible project engineering and development costs, such as:

- IFOM batteries and generation resources
- Engineering and project management costs
- Property purchase or lease costs

Also includes the Application Development Grant of up to \$25,000.

Up to
\$3M
per project

Microgrid Added Facilities Allowance

Provides funding for utility equipment and services to enable the safe islanding of a Community Microgrid, such as:

- Microgrid Island Study (MIS)
- Equipment to enable safe transition and operation in Island Mode, which may include:
 - Isolation devices
 - Fault protection devices
 - Utility microgrid controller
 - System hardening

Up to
\$1M
per project

MIP Interconnection Allowance

For eligible Interconnection Studies and equipment:

- Interconnection study costs for eligible IFOM Project Resources
- Interconnection Facilities and Distribution Upgrades identified in the Interconnection Study



Application Incentive Request (AIR)

Costs eligible for the AIR include:

- The costs for purchasing IFOM Project Resources such as grid-forming and grid-following inverters and generator resources
 - To be eligible, none of these resources can be part of an Interconnection Agreement with SCE executed before the close of Application Window used for your Microgrid Application.
- The costs for purchasing IFOM Project Resource’s controller, protection, and communications equipment
- Permitting and licensing expenses incurred for IFOM Project Resource(s) prior to a microgrid’s islanding operation date
- Expenses related to reconfiguring behind-the-meter (BTM) electric service equipment so specific customer or facility loads can be isolated and served when the microgrid is in Island Mode
- Project management costs, including costs related to engineering, system integration, and construction activities for IFOM Project Resource and Balance of System site preparation, civil, electrical, and mechanical work
- Expenses associated with purchasing or leasing property for the IFOM Project Resources and Balance of Systems
 - Leasing property expenses should reflect the present value of the lease for the property needed for the IFOM Project Resources and Balance of System.
- Costs related to community outreach activities conducted or to be conducted for the microgrid
- Costs associated with developing a microgrid proposal and MIP Application
- Taxes to the extent applicable on any of the above

The Interconnection Allowance and Microgrid Added Facilities Allowance will not be determined until the Interconnection and Microgrid Islanding Studies are completed in Stage 3.

When these studies are complete, SCE will identify the required utility-owned Interconnection Facilities and Added Facilities. This information, along with the estimated costs, will be documented in the Generator Interconnection Agreement and in the Microgrid Added Facilities Agreement.

Owners of the IFOM Project Resources will only be required to pay for the costs of utility-owned Interconnection Facilities to the extent the costs exceed the \$1 million allowance cap. Likewise, the Awardee will only be required to pay for the costs of utility-owned Microgrid Added Facilities to the extent the costs exceed the \$3 million allowance cap.

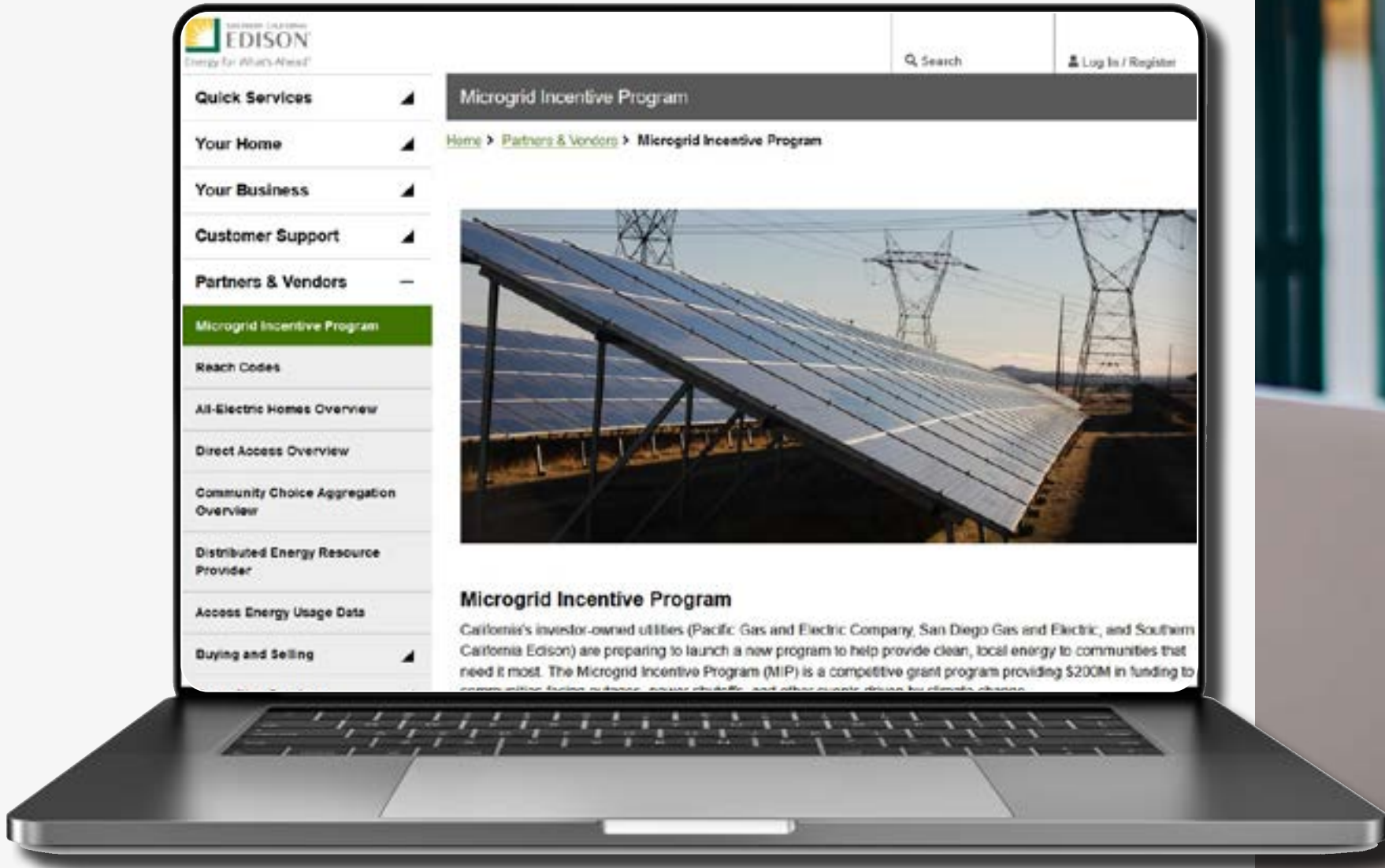
FUNDING



Application Development Grant

SCE recognizes that it is costly to develop a technical application required for the MIP and that this burden may be especially hard on the DVCs for which the MIP is intended. For this reason, SCE will reimburse the costs incurred in development of an eligible MIP application up to a cap of \$25,000, whether the Applicant is successfully awarded a MIP incentive grant or not. This one-time Application Development Grant, if requested, will be paid to the requesting eligible Applicant following confirmation of eligibility.

Applicants must detail the technical support costs associated with the grant request along with an explanation of how the funds were used. The Application Development Grant will be issued to the Applicant within two weeks of SCE's determination that the Applicant's incentive application is eligible.



FUNDING



Eligibility

To be eligible for the MIP, a proposed project must:

- Meet at least one requirement in **section A**
- Meet at least one requirement in **section B**
- Meet all technical requirements in **section C**

Eligible communities are encouraged to apply either on their own or through a designated representative. **The MIP application process is competitive, and eligibility does not guarantee funding.**

ELIGIBILITY

Vulnerable to Outages

Project must be located in one of the following areas:

- Tier 2 or 3 High Fire-Threat District
- Area that experienced prior PSPS outage(s)
- Elevated earthquake risk zone
- Locations with lower historical reliability

The local or tribal government leadership may be able to justify other forms of vulnerability.

Disadvantaged and Vulnerable Community

Project must be located in a DVC (one of four criteria below) within SCE service area, or power a critical community facility that primarily serves a DVC within SCE service area.

- Census tracts with median household incomes less than 60% of state median
- California Native American Tribal Community
- Community in the top 25% most disadvantaged census tracts per CalEnviroScreen
- A rural area

Technical Eligibility

Project must:

- Be a Community Microgrid
- Be able to serve a minimum of 24 consecutive hours of energy in Island Mode as determined by a typical load profile within the microgrid boundary

Project Resources must:

- Interconnect on a distribution line that is at 50kV or below
- Comply with the emissions standards adopted by the State Air Resources Board pursuant to the distributed generation certification program requirements of Section 94203 of Title 17 of the California Code of Regulations, or any successor regulation
- Have aggregate emissions, along with non-Project Resources, no greater than equivalent grid power when operating in Island Mode



The MIP Project Lifecycle (Stages 1-5)

Click on a section below to learn more.

The creation of a multi-customer Community Microgrid is a complex endeavor involving the community, its technical partner, and SCE as the distribution system owner and operator. SCE advises that communities seek a technical partner early in the process, as a technical partner will be needed in order to submit an application.

MIP projects will progress through a five-stage process.

Approx. 6 Months

2-3 Months

12-18 Months

18-36 Months

10+ Years

MIP PROJECT
LIFECYCLE STAGES



NOTE: Each project is unique and will follow different timeframes. These estimates are provided as guidelines only.



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Stage 1: Consultation

Goals:



Identify resiliency needs within the community



Discuss potential projects/energy solutions to meet community's need



Review the eligibility requirements for MIP funding



Discuss any design challenges with Applicant's engineering partner, and coordinate on solutions in preparation for application

Community Interest Notification

To begin the consultation process, your community should notify SCE of its interest by sending an email to MicrogridIncentiveProgram@sce.com. The Applicant will be provided with the Initial Resilience Consultation request form to complete and submit back to SCE. If the community is eligible for the program, SCE will schedule the consultation and provide information on next steps.



**STAGE 1:
CONSULTATION**

Initial Resilience Consultation (IRC)

The Initial Resilience Consultation is the official first step toward the submittal of a MIP application request. It is the first opportunity to share your community's specific goals and energy needs with SCE and discuss potential resilience solutions. The consultation will take place virtually.

During the IRC, SCE will work with the Applicant, the community, and/or a technical engineering partner to evaluate whether a MIP-eligible Community Microgrid is the best option to meet resiliency objectives. Options to be explored may include:

- ✓ **A MIP-eligible, multi-customer microgrid involving³:**
 - IFOM resources
 - BTM resources
 - A combination of both IFOM and BTM resources
- ✓ **Other resiliency options that are ineligible for MIP funding may include:**
 - Single-customer microgrids using BTM solutions
 - Utility grid solutions such as undergrounding overhead distribution facilities

During this consultation, SCE will work with the Applicant regarding MIP funding eligibility (please refer to the Eligibility section of the handbook).

The IRC may also cover the following:

- Incentive application and scoring procedures
- Overview of utility transmission and distribution system characteristics in the Applicant's identified Community Microgrid area
- Known technical issues related to the interconnection of new resources and/or microgrid configuration
- Information about the capacity of the distribution facilities that are proposed to be within the boundary of the microgrid
- Relevant information about SCE's planned PSPS mitigation activities
- Community Microgrid information, including potential grid isolation points that will establish the boundary of the microgrid (i.e., the Microgrid Islanding Point)

**STAGE 1:
CONSULTATION**

 **If the proposed microgrid is likely eligible⁴ and the Applicant wishes to pursue incentive funding, the Applicant will fill out the Microgrid Technical Consultation request form.** From this point in the MIP process onwards, SCE requires the Applicant to partner with an engineering firm with the capacity to manage the technical elements of the MIP development, construction, and operation process on behalf of the community. As part of the IRC, SCE can help identify characteristics of a competent technical partner.



Microgrid Technical Consultation

The Microgrid Technical Consultation will support the Applicant and their partners in planning and designing a multi-customer Community Microgrid including an overview of microgrid study and development process along with relevant agreements. The Microgrid Technical Consultation will also help the Applicant prepare a complete MIP Application. Relevant technical aspects of the proposed MIP project, including electrical conditions of the distribution system within the proposed microgrid boundary, will be shared and reviewed with the Applicant and their technical/engineering partners.

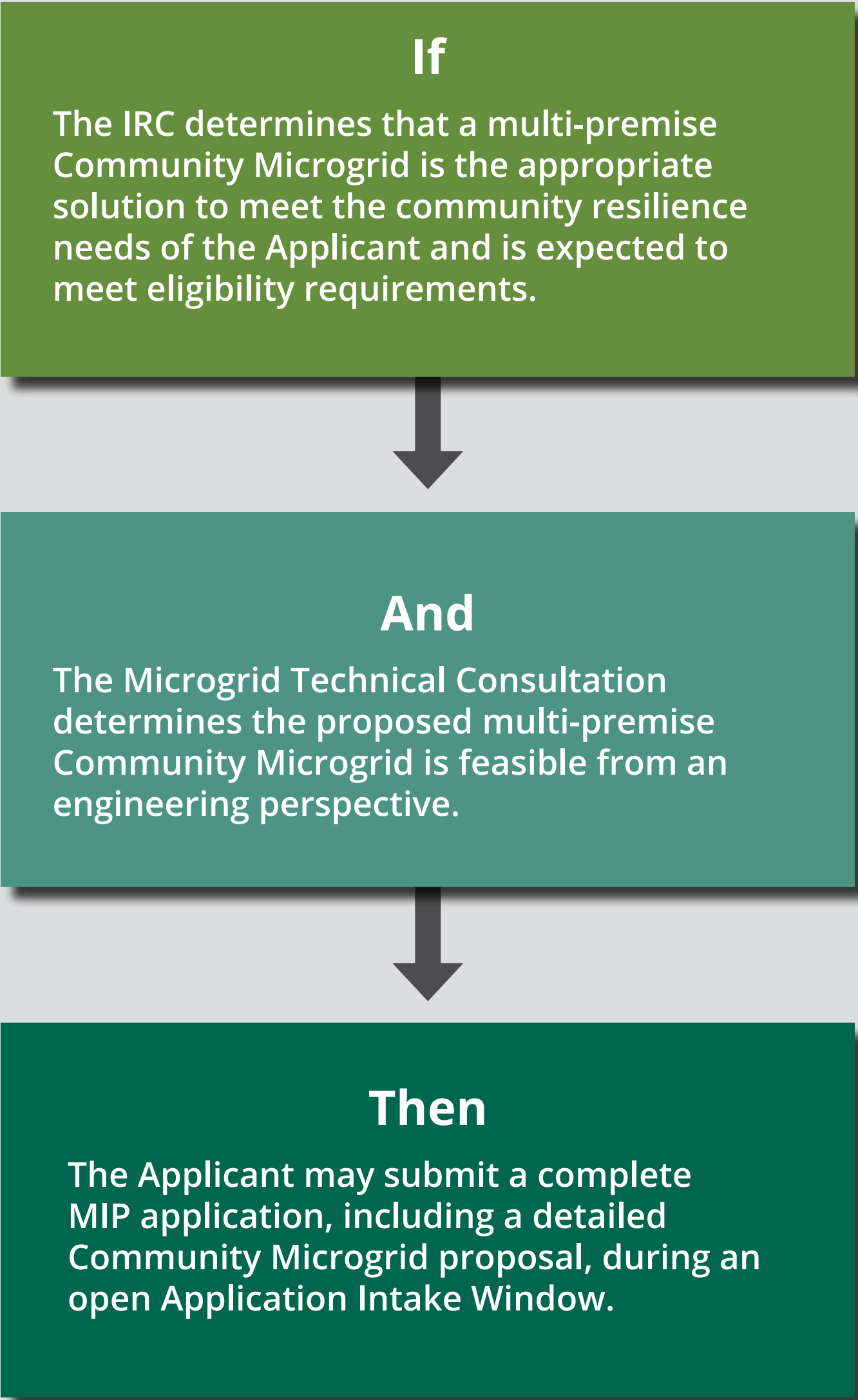
The technical consultation will take place virtually. All parties that participate in these technical conversations must review, agree to, and submit the following (both can be requested by sending an email to MicrogridIncentiveProgram@sce.com):

- SCE confidentiality and non-disclosure agreement⁵
- Microgrid Technical Consultation request form
 - The Microgrid Technical Consultation request form allows SCE to evaluate community-specific information provided by the Applicant and their technical partner.

During this step, SCE will provide relevant information necessary to prepare a complete MIP Application, such as aggregated customer load profiles including forecast growth over the 10-year operating term, subject to all applicable customer and data privacy regulations. SCE will also review the MIP application requirements with the Applicant and technical partner.

Once the Microgrid Technical Consultation is complete, SCE will provide the Applicant with the following templates and samples to begin reviewing contractual conditions and processes:

- MIP Participation Agreement
- Information on the generator interconnection process
- Microgrid Island Study Agreement
- Pro-forma Microgrid Added Facilities Agreement
- Pro-forma Microgrid Operating Agreement (MOA)



**STAGE 1:
CONSULTATION**



Stage 2: Application

Goals:



Develop and gather information for your MIP Application



Complete and submit your MIP Application to SCE during a MIP Application Window



Determine Participation Agreement

Preparing Your Application

Now that the Consultation Stage is complete, the Applicant and their technical partners can begin to prepare and submit a MIP Application. Please familiarize yourself with the application requirements before proceeding with the handbook.

Below is a summary of information needed to complete each of the four sections included in the MIP Application. Note, a MIP Application can only be submitted during an open MIP Application Window.

Applicant Information

- The name and contact information of the community, local or tribal government agencies, CBO, or other entity on behalf of which the MIP Application is being submitted. We call this entity the “Community Microgrid Aggregator” or CMG Aggregator.
- The name(s) and contact information for the technical design/engineering partner(s) for the project.
- A description of each of the technical design/engineering partners and their role on the project; engagement letter(s) from each partner on their company letterhead; evidence of each partners’ relevant professional qualifications.
- Tribal government Applicants may be required to sign a limited waiver of sovereign immunity to ensure contract enforceability and oversight jurisdiction by the CPUC.



Note: If the CMG Aggregator is not a local or tribal government, one or more support letters from a local or tribal authority having jurisdiction over the area where the project is located is required. Such letter(s) must be included in the Attachments section of the application.

**STAGE 2:
APPLICATION**



Preparing Your Application (Continued)

Project Description

- Executive Summary describing the project, the resilience need served by the project, project location, and microgrid boundary and islanding point(s)
- A demonstration of how the project meets eligibility requirements “A” (Vulnerable to Outages) and “B” (Disadvantaged and Vulnerable Community)
- Locations of all Project Resources (both existing and planned), and any known non-project resources
- Additional information necessary to score the project:
 - The number of California Alternate Rates for Energy Program (CARE) and/or Family Electric Rate Assistance Program (FERA) or otherwise vulnerable customers, including an attestation from local or tribal authority having jurisdiction for vulnerable customer data
 - The number and description of Critical Facilities and Community Resilience Service facilities located within the microgrid project’s boundary
- Summary project cost estimate and Application Incentive Request, with details to be provided in Attachment section:
 - Actual costs incurred [or expected to be incurred] to develop the MIP Application (Application Development Grant request, capped at \$25k)
 - Total estimated project cost that the community anticipates incurring and that is eligible for reimbursement
 - Project costs that will be funded by your organization, other organizations or grants, and the MIP (Application Incentive Request)
 - Calculations showing how the Applicant accounted for actual and estimated costs eligible for funding under the MIP, and actual and estimated non-MIP revenue sources, to arrive at the amount of its MIP incentive request.

Loads and Project Resources

- Hourly aggregate load profiles of the customers within the microgrid boundary, including a forecast of how these metered load profiles will grow over the lifetime of the microgrid project (10 years).⁶ This information will be provided by SCE during the Technical Consultation
- The number and types of planned and existing IFOM and BTM Project Resources (solar, wind, battery-based energy storage, etc.) and, if known, planned and existing IFOM and BTM non-Project Resources.
 - Each Project Resource’s manufacturer, technical data, and operating parameters
 - If these Project Resources currently exist, or if they will be new and need to submit an interconnection request to the utility
 - A brief showing how these Project Resources will support the load of the customers and facilities connected to the microgrid (detailed engineering analysis to be provided in Attachments)
- An estimate of the greenhouse gas emissions per kilowatt/hour (kWh)⁷ of electricity generated by Project Resources and Non-Project Resources when the Microgrid Project is in Island Mode.

**STAGE 2:
APPLICATION**



Preparing Your Application (Continued)

Attachments (refer to the Application Form for all required attachments)

- AIR Request⁸, including the following information:
 - Detailed estimate of costs to be incurred for those activities and facilities that are eligible for reimbursement under the MIP.
 - Detailed accounting of actual application development costs incurred, subject to reimbursement up to \$25k through the Application Development Grant.
 - Breakout of costs to be funded by:
 - Self (community or CMG Aggregator) funding
 - Other grants or other sources
 - MIP
- Attestations/letters of support from local and tribal governments
- Microgrid Proposal detailing MIP technical eligibility, including:
 - A 60% single-line diagram of the proposed microgrid that describes the microgrid's:
 - Microgrid Islanding Point(s)
 - Boundary, e.g., geographic polygon indicating boundary
 - Project Resources and Balance of System to extent known
- Project site(s) details:
 - Location(s)
 - The status of control your organization will have over the project site(s)
 - Customers to be energized
 - Permits you will need to secure to deploy and operate your microgrid's Project Resources
- Microgrid development plan
- An engineering analysis demonstrating how the proposed microgrid's Project Resources will support the projected loads for a minimum of 24 consecutive hours in Island Mode.⁹

**STAGE 2:
APPLICATION**



Preparing Your Application (Continued)

Once the Consultation Stage is complete, the Applicant can prepare and submit a MIP Application.

✓ STEP 1: Submitting Your Application

Applications can be submitted via email, including attachments, to MicrogridIncentiveProgram@sce.com. The application form will be available on the program [website](#).

- All applications received within the Application Window will be acknowledged and reviewed for completeness. SCE will store all the information and attachments included in the MIP Application to evaluate the microgrid project. This information will be treated by SCE as confidential.
- If complete, SCE will calculate a Project Score for the corresponding microgrid project. This Project Score will be used to prioritize funding of eligible MIP applications. The same scoring parameters will be used for each application, with no preference or priority given to applications received earlier or later within the MIP Application Window.
- If an application is incomplete, SCE will inform the Applicant which aspects of the application need to be completed or updated before it can be accepted. Once the Applicant has been notified of the necessary changes/ information, they have a 10-business day cure period to submit a revised application.
- Applicants may not submit multiple applications for substantially similar projects in the same area.
- Applicants may reapply in subsequent application windows if the application is rejected. However, the \$25,000 Application Development Grant is one-time only.

✓ STEP 2: Eligibility Confirmation

After submission, SCE will conduct a review to confirm the application's eligibility for the MIP.

- The cure period, or time allowed to amend an application, will allow the Applicant to provide any missing information critical to determining eligibility, as identified by SCE. If the Applicant is unable to resolve the deficiency before the end of the current MIP Application Window and cure period, the revised application can be resubmitted during the next open Application Window, if one is available.



- After the MIP Application Window closes and the SCE has accepted an application (meaning SCE has determined that the Applicant eligible for the MIP has provided all required information), SCE will calculate a Project Score for every accepted MIP Application.
- The formula and other calculations SCE will use to develop Project Scores are designed to minimize subjectivity and prioritize those microgrids that will deliver the most customer, community, resilience, and environmental benefits per AIR dollar requested.
- The MIP application and related information will be used to generate a Benefit Score, which along with the AIR, will be used to calculate a Project Score.



Note: A MIP Application can only be submitted during an open MIP Application Window.

**STAGE 2:
APPLICATION**



Preparing Your Application (Continued)

A Calculate Your Benefit Score

The Benefit Score is equal to the sum of the MIP application's Customer and Community Benefits points, Resilience Benefits points, and Environment Benefit points. Each of these Benefits receives the following percentage points:

- Customer and Community Benefit points: **50%** of the total available benefit points
- Resilience Benefit points: **30%** of total available Benefit Points
- Environment Benefit points: **20%** of total available Benefit Points



STAGE 2:
APPLICATION



Customer and Community Benefits (50% Total Points)

Customer and Community Benefits points are based on the benefits a community microgrid will deliver to customers within eligible DVCs, as well as facilities that serve DVCs. Points are determined by:

- Number of low-income customers that would be served by the microgrid
 - Low-income customers are the number of CARE and/or FERA¹⁰ customers located within the microgrid's boundary, according to SCE's records.
- Number of vulnerable customers within the proposed microgrid's boundary
 - Vulnerable customers are defined as AFN, Medical Baseline (MBL), or Life Support customers¹¹. The number of vulnerable customers will be identified in the local government or tribal attestations included in the MIP Application, as well in SCE's customer service records.
- Number of critical facilities serving DVC residents within the proposed microgrid's boundary
 - Fire stations, hospitals, and other critical facilities are defined by the CPUC¹² and will be identified by SCE based on its records.
- Number of Community Resilience Services facilities for DVC residents within the proposed microgrid's boundary
 - This number is determined by how many Community Resilience Services facilities are listed within the microgrid's boundary in the local government or tribal attestations included in the MIP application.

Resilience Benefits (30% Total Points)

Resilience Benefits Points are based on the outage risk of the utility distribution facilities within the microgrid boundary, plus the continuous length of time the proposed microgrid can provide electricity when operating in Island Mode. They are determined by:

- Whether the microgrid will be located on an electric circuit that passes through a [CPUC Level 2 or 3 High Fire-Threat District \(HFTD\)](#)
- Whether the microgrid location:
 - Will be on a circuit that has been identified over the past two years as one of SCE's 1% Worst Performing Circuits, in terms of duration or frequency, in SCE's annual Electric Reliability Report
 - Has been impacted by a past PSPS event as determined by SCE.
 - Is in an area that SCE has excluded from all reasonably anticipated potential future outage events due to other resilience mitigation activities. If the proposed microgrid is in such an area, it will not be awarded points in this category, even if it has been impacted by past PSPS events.
- The number of six-hour periods that the microgrid can operate in Island Mode beyond the 24-hour minimum. This number of six-hour periods of subsequent operation is determined by the typical load profile of the customers and facilities served by the microgrid and the expected electricity capacity of the microgrid's Project Resources and the electrical capacity of Non-Project Resources within the microgrid boundary.¹³

**STAGE 2:
APPLICATION**



Environmental Benefits (20% Total Points)

Environmental benefits are based on the microgrid’s use of clean energy resources, and the extent to which the microgrid will be able to help customers or facilities avoid using emergency or backup generation powered by fossil fuels. They are determined by:

- Whether the aggregate nameplate generating capacity of the microgrid’s clean energy IFOM Project Resources is equal to or greater than 80% of the aggregate nameplate generating capacity of all IFOM Project Resources located within the microgrid’s boundary.
 - Interconnection capacity for existing IFOM Project Resources as set forth in the generator interconnection agreement. Interconnection capacity for planned IFOM Project Resources is the amount of interconnection capacity that will be requested in the generator interconnection request application. For IFOM Project Resources that are, or plan to be, interconnected as hybrid resources, the interconnection capacity will be allocated to each individual hybrid resource in proportion to each resource’s installed capacity.
 - The nameplate capacity for Project Resources that use inverters will be based on their Alternative Current (AC) output capability.
 - Any Project Resources within the microgrid boundary that will not operate during Island Mode, either because of regulatory restrictions or other binding commitments precluding such operation, are excluded from this calculation.
- Whether, from the time the microgrid begins commercial operation, at least one critical facility will rely on the microgrid as its primary source for backup power instead of relying on an existing emergency/standby generator powered by fossil fuels.
 - To earn this point, the MIP application should include an attestation from the Critical Facility confirming the microgrid will replace its existing emergency/standby generator as its primary source for backup power.

Note: The critical facility does not have to remove its existing emergency/standby generators for the microgrid to earn points for displacing these generators.

Once a proposed microgrid’s Customer and Community Benefits Points, Resilience Points, and Environmental Points are calculated, they are added together to determine a total Benefit Score.



**STAGE 2:
APPLICATION**



Points Breakdown

Benefit Scoring Category	Subcategory	Scoring Parameter / Criteria	Validation	Points	Points Cap	Max Points
Customer & Community Benefits	Low Income Customers	Number of CARE/FERA customers within MIP Project	Utility Records	0.1	8	50
	Vulnerable Customers	Number of AFN/Medical Baseline/Life Support customers within MIP Project	Attestation from authority with jurisdiction	0.2	10	
	Critical Facilities	Number of Critical Facilities within MIP Project Boundary	CPUC Definition	5	30	
		Number of Critical Facilities within MIP Project Boundary Serving DVC	CPUC Definition	10		
	Community Services	Community Resilience Service facilities within MIP Project (min. of 1)	Attestation from authority with jurisdiction	2	2	
Resilience Benefits	Location Outage Risk	HFTD 2	CPUC HFTD Map	3	6	30
		HFTD 3	CPUC HFTD Map	6		
		Prior PSPS Events - 2 points per historical PSPS event (any year) that has not been substantially mitigated at the time of MIP application	Utility Records	2	14	
	1% Worst Performing Circuits (past 2 years)	Appears in either of prior 2 years of Utility Annual Electric Reliability Report	4	4		
	Island Duration	Duration of Islanded Operation provided by MIP Project Beyond 24hr minimum requirements	Each subsequent 6-hour period of operation beyond 24 hours determined by typical load profile of the microgrid electrical boundary.	0.5	6	
Environmental Benefits	Clean Energy	100%	% of installed IFOM clean energy Project Resource capacity in relation to the total installed IFOM resource capacity within MIP Project. Points given for MIP Projects "where percentage exceeds 80%. Installed capacity for resources using inverters will be based on the Alternating Current (AC) output capability	17	17	20
		95-99%		12		
		90-94%		7		
		80-89%		2		
		<79%		0		
	Fossil Fuel Displacement	Fossil Fuel Emergency/Backup Gen Displacement as primary back-up (min. of 1)	Application Attestation	3	3	

**STAGE 2:
APPLICATION**



B Calculating AIR

The AIR is the Incentive Award funding requested in the MIP Application. The AIR should reflect all the MIP eligible project costs the Applicant included in their MIP application, minus any anticipated federal, state (including CEC EPIC), and/or local government grants, or other sources of funding for the microgrid project.

- These other sources of funding should already have been included in the AIR attachment submitted with the application.

C Project Score

SCE will calculate the Project Score of each eligible application by dividing its Benefit Score by its AIR. Thus, ancillary funds from outside the MIP that reduce the AIR will improve the Project Score.



Incentive Award Notifications

The Applicant will be notified of a decision once all applications have been processed and scored.

The funding of MIP applications is prioritized through a process in which the application with the highest Project Score receives their requested amount of AIR funding. This process repeats, with the next highest scoring application receiving its requested AIR funding until either:

1. There are no eligible applications who have not received funding;
- Or
2. There are insufficient MIP funds to fully meet an eligible application's AIR funding request.

If insufficient funds are available to support a full award, the Applicant may be offered a partial incentive award. The Applicant can elect whether to move forward. If the Applicant elects not to move forward, the funds will be offered to the Applicant receiving the next highest Project Score. This process continues until all funds are exhausted or until all Applicants have been offered an award. Any unused funds will be carried over into the next Application Window, or returned to ratepayers in the event there are no remaining Application Windows.

i MIP applications that do not receive any award will be placed in the prioritization list of the next open Application Window, if applicable.

Nothing precludes an Applicant that does not receive an award from pursuing the development of a Community Microgrid outside of the MIP. However, under existing regulatory rules, SCE has no legal or regulatory obligation to fund or implement such microgrids. SCE, as program administrator, retains discretion regarding incentive awards and allowances considering ratepayer interests.¹⁴

**STAGE 2:
APPLICATION**

Stage 3: Studies

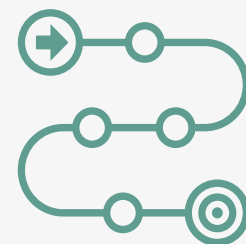
Goals:



Complete the studies required for the Technical Evaluation: **Interconnection Study (IS)** and **Microgrid Islanding Study (MIS)**



Execute the Interconnection and Microgrid Added Facilities agreements



Determine whether to move forward with developing the MIP Community Microgrid

Technical Evaluation Studies

Once SCE determines which MIP applications will receive incentive funding, the Applicant officially becomes an Awardee. Awardees who execute a Participation Agreement will move on to Technical Evaluation Studies Stage, in accordance with the terms and conditions of the Participation Agreement.

The Technical Evaluation Studies Stage includes two separate studies – an Interconnection Study (IS) and a Microgrid Islanding Study (MIS). These studies will be used by SCE to develop the project's Interconnection Agreement and Microgrid Added Facilities Agreement.

Once these Agreements are executed, the project will proceed to the Development Stage, in which the MOA will be executed.

Studies:

Click on a section below to learn more.

**STAGE 3:
STUDIES**



Interconnection Study

To develop an IS for the Awardee’s microgrid, Awardees must first submit an Interconnection Application to SCE for the Project Resource(s). To initiate this study, Awardees must determine whether it is preferred for the Project Resource(s) to participate in the CAISO’s wholesale market. If the Project Resources are to participate in the CAISO’s wholesale market, Awardees are to follow the SCE’s Wholesale Distribution Tariff (WDAT) generator interconnection process. If not, Awardees are to follow the SCE’s Electric Rule 21 generator interconnection request process. Contact the SCE Resilience Coordinator or liaison identified in Stage 1 for further guidance. The IS determines what Distribution Upgrades, Transmission Network Reliability upgrades, and Interconnection Facilities are needed to interconnect the Project Resources safely and reliably to the SCE’s distribution system.

Applicants do not have to wait until their project receives an Incentive Award to submit an Interconnection Application; Applicants may submit an Interconnection Application at any time, including during the Technical Consultation Stage or Application Stage of the MIP. However, Interconnection Application costs, Utility IS fees, and other expenses related to the IS application and IS can only be offset by Interconnection Allowance funds if an Incentive Award is received, and only if the Project Resource has not already entered into a generator interconnection agreement at the time the Applicant submits its incentive request.

After the generator Interconnection Application is submitted, SCE will review and confirm it is complete. SCE will conduct the IS in accordance with the study procedures and timelines specified in SCE’s WDAT or Rule 21.


As part of the IS, SCE will prepare an estimated construction timeline and cost estimate for the Distribution Upgrades and Interconnection Facilities required for the proposed microgrid project. This timeline and cost estimate will be reflected in the Interconnection Agreement that will be delivered to the entity submitting the interconnection request when the IS is complete. This Interconnection Agreement will need to be executed before or at the same time as MOA.

The Interconnection Allowance may be applied to eligible interconnection application and study costs as well as the costs of Distribution Upgrades and Interconnection Facilities described in an eligible Interconnection Agreement. To be eligible, the Interconnection Agreement for IFOM Project Resources must be executed after the close of Application Window associated with the Applicant’s AIR and prior to, or at the same time as, execution of the MOA. These Distribution Upgrades and Interconnection Facilities costs may include:

- Switches, wires, and other equipment needed for the microgrid’s Interconnection Facilities
- Substation transformer upgrades, line refurbishments, and other distribution system upgrades

Transmission Network Reliability upgrades are not covered by the Interconnection Allowance. Cost responsibility for these upgrades is specified in the WDAT and Rule 21.

The procedure by which the interconnection allowance is granted to entities requesting interconnection of Project Resources is set forth in the Participation Agreement.

 **The Interconnection Application process proceeds on a separate timeline from the MIP process.**

**STAGE 3:
STUDIES**



Microgrid Islanding Study (MIS) and Microgrid Added Facilities Agreement

The MIS is a set of evaluations that assess the safety and performance requirements of Community Microgrid. The MIS focuses only on Island Mode operation of the microgrid system and the transition to and from Island Mode.

To begin the MIS, the Awardee must complete and execute an agreement to conduct the MIS. After SCE reviews the application and determines that the necessary information has been provided, SCE and the Awardee will work together to conduct the MIS.

This MIS will build on the Microgrid Technical Consultation previously conducted for the proposed microgrid project. The MIS will cover topics such as power flow and voltage analysis, protection settings, power quality, transitional operation, and transient stability studies. The cost for the MIS is eligible to be paid through the Microgrid Added Facilities Allowance.

Once the Microgrid Islanding Study is complete, SCE will meet with the Awardee to:

1. Review the results of the study
2. Discuss potential mitigating solutions for any adverse results
3. Identify the additional Microgrid Added Facilities which will be required for the safe operation of the microgrid

At the end of this Final Report Meeting, both SCE and Awardee should have a common understanding of the requirements which were met/unmet and agree on the next steps forward.

The MIS will establish a list of equipment that will be required to enable Island Mode. This list of equipment and the associated cost estimates will inform the Microgrid Added Facilities Agreement.

Ultimately, the project must pass the MIS to proceed to Stage 4 “Contracting and Development,” and for the CMG Aggregator to be eligible to sign the Microgrid Operating Agreement (MOA).

The CMG Aggregator is eligible to receive a Microgrid Added Facilities Allowance capped at \$3 million to offset eligible Microgrid Added Facilities and MIS costs. Eligible costs that can be offset by this allowance include:

- SCE’s MIS study fees
- SCE’s Microgrid Added Facilities equipment and upgrades required to support islanding function, such as:
 - Fault interrupting Supervisory Control and Data Acquisition (SCADA) switches and reclosers
 - Relays and other communication/infrastructure to connect SCADA switches and microgrid controllers to SCE’s control center
 - Reconfiguration of utility’s electric service equipment (e.g., line hardening, undergrounding distribution)
 - Networking Equipment (e.g., routers, security gateway, firewalls)
 - Communications infrastructure (e.g., towers, fiber optics, leases)
 - Network Project Management and Equipment Installation expenses
 - SCE’s Microgrid Controller (hardware, software and acceptance testing)
 - Applicable cost of ownership for these facilities

**STAGE 3:
STUDIES**



Final Project Scope and Cost

The results of the IS and MIS (including the Added Facilities identified by the MIS) will provide the following information and allow the Awardee to evaluate whether to proceed with the proposed microgrid project:

- Project Resource(s) and other microgrid costs that the Awardee will be obligated to pay, and the extent these costs will be offset by the Incentive Award
- Distribution upgrade and Interconnection Facility costs, and the extent these costs can be offset by the Interconnection Allowance
- Microgrid Added Facilities costs, and the extent these costs can be offset by the Microgrid Added Facilities Allowance

If the Awardee decides to move forward with their proposed microgrid, they will execute a Microgrid Added Facilities Agreement with SCE and begin the Development Stage. Similarly, the Interconnection Agreement must be signed prior to the project progressing to the Development Stage.

If after this evaluation an Awardee decides not to move forward with the proposed microgrid, the Awardee will notify SCE of this decision, and any further grant obligations will be terminated in accordance with the terms of the MIP Participation Agreement. The incentive award and remaining allowances will be returned to SCE's MIP funds and made available to other MIP Applicants in accordance with the process described in the [Incentive Award Notifications Section](#).



**STAGE 3:
STUDIES**



Stage 4: Contracting and Development

Goals:



Prepare and execute a MOA between Awardee and SCE detailing how the microgrid project will be developed, commissioned, and operated.

Click on a section below to learn more.

STAGE 4:
CONTRACTING &
DEVELOPMENT

Microgrid Operating Agreement (MOA)

The MOA describes the roles and responsibilities of both SCE and Awardee during the development, commissioning, and operation of the microgrid project. This includes:

- Contractual terms and conditions
- Project development including milestones and associated payments of the accepted incentive award
- Microgrid operation

The MOA must be enforceable by and subject to the oversight jurisdiction of the CPUC. As such, if the Applicant is a tribal government, executing a MOA may require a limited waiver of sovereign immunity.

MOA Terms and Conditions

The MOA defines the contractual terms and conditions of the microgrid. As an umbrella agreement, it incorporates, by reference and addendum, other microgrid-related contracts and agreements, including:

- Interconnection Agreements for Project Resources
- Microgrid Added Facilities Agreement
- Any agreements with firms that will be involved in the design, procurement, construction, and operation of non-utility components of your microgrid project

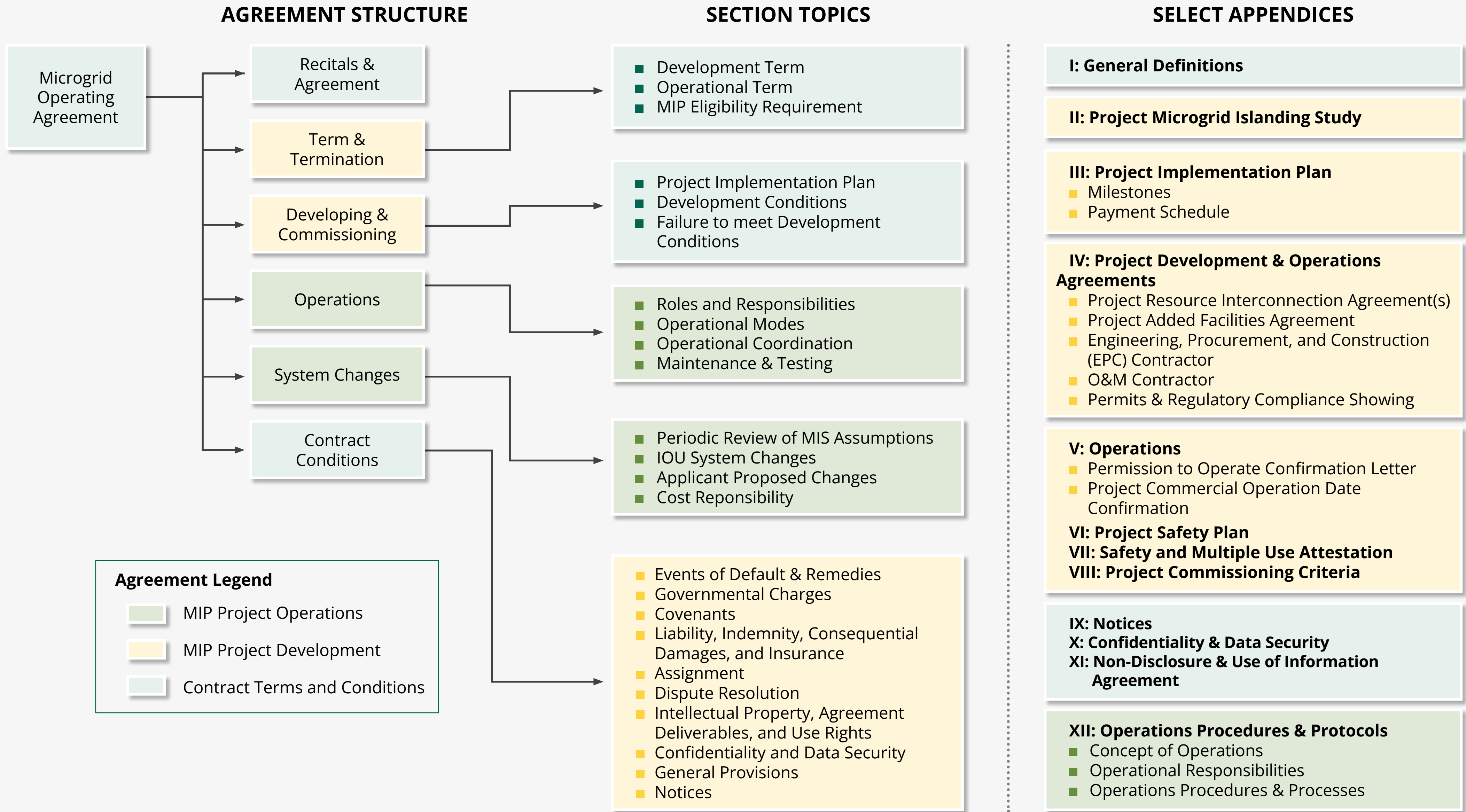
Importantly, the MOA defines:

- **Project Development Term:** The 24-month period during which you and SCE will construct, test, and commission the microgrid. This term begins on the MOA's effective start date and is complete on the MIP Project Islanding Operation Date (IOD). Upon mutual agreement between you and SCE, this 24-month term can be extended up to 36 months.
- **Project Operation Term:** The period during which the CMG Aggregator and SCE will operate the microgrid. The initial 10-year Operating Term commences on the project's IOD. At the end of 10 years this Operating Term is automatically renewed annually for one-year terms until the MOA is terminated.

The MOA also defines the terms and conditions for suspension and/or termination.

STAGE 4:
CONTRACTING &
DEVELOPMENT





The MOA Project Implementation Plan

The Awardee and SCE will collaborate on the completion of a Project Implementation Plan (PIP). The PIP details how the microgrid will be safely developed and operated. This plan includes milestones like key quantifiable project accomplishments, mutually agreed upon by the Awardee and SCE.

Though milestones are unique for each microgrid project, they generally fall into one of the following categories:

- ✓ **Approvals:** approval of the PIP or final engineering design, or a local government's approval of the permits required for the project
- ✓ **Construction Stages:** the completion of the project's mobilization, equipment delivery, or other construction stages
- ✓ **Plans and Procedures:** the completion of documents that detail the project's safety procedures, operational procedures, or Microgrid Project Commissioning Test plan
- ✓ **Commissioning:** SCE issuing a Permission to Island (PTI) after the project has finished its MIP Project Commissioning Test

Some of these milestones will be used to create an MOA milestone payment schedule that describes when the Awardee's Incentive Award funds will be dispersed. Incentive Award payments will be tied to milestones, such as completion of the microgrid equipment delivery stage.

 **Not all milestones will be associated with an Incentive Award payment.**

Incentive Payments

The Awardee will be offered a MIP Participation Agreement, which they may accept or reject. The Participation Agreement will set forth the terms and conditions governing the disbursement of the Interconnection Allowance, the Microgrid Added Facilities Allowance, and the AIR. SCE will make incremental payments pending its determination that the critical milestones have been met. The Awardee is expected to cooperate with SCE in providing information that will assist SCE in determining when each milestone has been achieved.

In creating the Participation Agreement, SCE may solicit feedback from the Awardee on the timing of milestones and size of incentive payments. However, SCE ultimately has the sole discretion to set these milestones.

Incentive payments will be made to the bank account identified in the MIP Application PMOA. All tasks identified specifically in the PIP related to the critical milestones must be completed in a timely fashion to trigger the scheduled disbursement of funds. The specified dates do not account for unanticipated delays, including but not limited to delays caused by: emergency response due to wildfires or storms, time to complete environmental studies, availability of needed resources (e.g., materials or crews), difficulties securing necessary permits, easements, rights of way, licenses or other approvals, inability to obtain information needed to complete the CMG implementation process, or delays in scheduling clearances of the SCE Distribution System to complete construction of necessary facilities.

**STAGE 4:
CONTRACTING &
DEVELOPMENT**



Illustrative Example of Critical Milestones and Incentive Payment Schedule

(See Microgrid Operating Agreement)

Item	Critical Milestone	Target Date	Responsible Party	Incentive Payment (portion of accepted incentive award)	Incentive Payment (amount)
1	Generator Interconnection Study complete		SCE	0%	\$0
2	Microgrid Islanding Study complete		SCE	0%	\$0
3	MG Added Facilities Agreement executed		SCE	0%	\$0
4	PIP developed to SCE's satisfaction		CMG Authority	0%	\$0
5	Develop Safety Plan		CMG Authority	0%	\$0
6	Safety Attestation delivered to SCE		CMG Authority	0%	\$0
7	Later of (a) PIP developed to SCE satisfaction, and (b) Safety Attestation delivered to SCE		CMG Authority	5%	\$ _____
8	CMG Aggregator and SCE sign Generator Interconnection Agreement		CMG Authority, SCE	0%	\$0
9	CMG Aggregator and Developer sign contract for construction of IFOM Resource		CMG Authority	0%	\$0
10	CMG Aggregator and Developer sign contract for construction of Balance of System		CMG Authority	0%	\$0
11	Project Resource site preparation start (e.g., grading for planned generator)		CMG Authority	10%	\$ _____
12	All foundations at generator site complete		CMG Authority	0%	\$0
13	Generator delivered to site		CMG Authority	35%	\$ _____
14	Generator installed		CMG Authority	0%	\$0
15	Balance of System installed		CMG Authority	0%	\$0
16	Later of (a) Generator installed, and (b) Balance of System installed		CMG Authority	25%	\$ _____
17	Utility-owned Distribution Upgrades and Interconnection Facilities installed for CMG Aggregator's generators		SCE	0%	\$0
18	Generator Commissioning Tests complete		CMG Authority	0%	\$0
19	Utility-owned Added Facilities installed		SCE	0%	\$0
20	Utility-owned Microgrid Added Facilities installed		CMG Authority	0%	\$0
21	Later of (a) Generator Commissioning Tests complete, and (b) Balance of System Commissioning Tests complete		CMG Authority	10%	\$ _____
22	Permission to Operate CMG Resources issued		SCE	N/A	N/A
23	Permission to Operate CMG Confirmation Letter issued		SCE	15%	\$ _____
TOTAL:				100%	\$ _____

**STAGE 4:
CONTRACTING &
DEVELOPMENT**

Critical Milestones and Incentive Payments shown for illustration. Specific Critical Milestones to be developed by Parties



Interconnection Allowance Payments

The MIP provides up to \$1 million for an Interconnection Allowance for the cost of Interconnection Facilities and Distribution Upgrades necessary for the Awardee to interconnect new IFOM generation within the boundary of the microgrid for the purpose of supporting microgrid operations in Island Mode. Only new IFOM generation identified within, and developed by the Awardee pursuant to, the PIP is eligible for this Interconnection Allowance. The PIP is provided in Appendix III-B of the MOA.

Any new generation interconnecting outside the boundaries of the Community Microgrid, any new BTM generation, and any generation developed by a party other than the Awardee is not eligible for the Interconnection Allowance. Only those generator interconnection study costs and the actual costs of generator interconnection-related Interconnection Facilities and Distribution Upgrades identified by SCE prior to the commercial operation date of the CMG are eligible for the Allowance.¹⁵

The costs that may be included in the Interconnection Allowance include:

- Utility's Interconnection Study costs for eligible IFOM Project Resources
- Utility's Interconnection Facilities (e.g., switches and wires needed to connect the generating facility to the grid) identified in the Interconnection Study
- Distribution System Upgrades (e.g., substation transformer, required reconductoring, etc.) identified in the Interconnection Study

The Interconnection Allowance does not include Network Reliability Upgrades.

SCE will provide the Awardee with the applicable Interconnection Allowance by reducing the Awardee's otherwise billable interconnection facilities and distribution upgrade costs. The billable interconnection facilities and distribution upgrade costs will be determined in accordance with one of two of SCE's generator interconnection processes, WDAT or Rule 21. The Awardee will determine which generator interconnection processes it wishes to use to interconnect the new IFOM generation. The Awardee will submit a generator interconnection request in accordance with the applicable request process. Following submission of an Interconnection Request that SCE determines is complete, SCE will conduct Interconnection Studies to identify the Interconnection Facilities and Distribution Upgrades, and the estimated costs of those upgrades, necessary to safely and reliably interconnect the project generation resources. The Awardee will be responsible for the costs of the interconnection facilities and distribution upgrades that exceed \$1 million. The Awardee may not include an estimate of any amounts above the caps in its AIR.

i Note: The Awardee may submit a generator Interconnection Request to SCE at any time, including prior to when the Awardee receives an incentive offer from SCE. However, only those Awardees who have executed the MIP Participation Agreement are eligible for the Interconnection Allowance. The Interconnection Allowance will only be applied to those new IFOM generators where billing for the actual costs of the Distribution Upgrades is not complete; i.e., the Interconnection Allowance will not be retroactively applied to Distribution Upgrade costs that have already been billed to the Awardee.

**STAGE 4:
CONTRACTING &
DEVELOPMENT**



Microgrid Added Facilities Allowance Payments

The MIP provides up to a \$3 million Microgrid Added Facilities Allowance for the cost of utility-owned Added Facilities that:

- Are determined by SCE to be necessary to operationalize the Community Microgrid
- Would otherwise be the cost responsibility of the Awardee, as identified in the MIS

SCE and the Awardee will enter into a Microgrid Added Facilities Agreement that identifies the required upgrades and estimated costs, and obligates the Awardee to reimburse SCE for the actual costs of such Added Facilities to the extent the costs exceed the Microgrid Added Facilities Allowance.

Required upgrades may include, for example, devices necessary to isolate the Community Microgrid from the larger distribution system, a microgrid controller that SCE will monitor and control the Awardee’s plant controllers to maintain acceptable frequency and voltage during Island Mode operation, or the undergrounding of distribution facilities within the microgrid boundary that are determined to be necessary for safe and reliable Island Mode operation.

Only those special facility study costs and the actual costs of Microgrid Added Facilities identified by SCE prior to the commercial operation date of the microgrid, are eligible for the Microgrid Added Facilities Allowance.¹⁶

SCE will provide the Awardee with the applicable Microgrid Added Facilities Allowance by reducing the Awardee’s otherwise billable special facility costs. The Awardee will only be responsible for the actual costs of the Added Facilities that exceed \$3 million.

MIP Funding Limitations

Note that pursuant to CPUC order, the sum of the requested Application Development Grant and accepted Incentive Award may not exceed \$14 million.¹⁷ In addition, the Interconnection Allowance for Interconnection Facility and Distribution Upgrade costs associated with the interconnection of new IFOM generation is limited to \$1 million, and the allowance for Microgrid Added Facilities costs is limited to \$3 million. Costs incurred by SCE to accommodate unanticipated changes to the microgrid after its commercial operation date will be the responsibility of the Awardee. If no party agrees to pay for these costs, SCE has the right under the MIP Participation Agreement to suspend operation of the microgrid.



**STAGE 4:
CONTRACTING &
DEVELOPMENT**



Project Commissioning

For the microgrid project to be commissioned, SCE must verify that it can safely deliver the islanding performance outlined in the MOA. This is referred to as a MIP Project Commissioning Test.

Before the Project Commissioning Test can take place, all the microgrid’s construction and subsystem testing must be complete. In addition, SCE needs to have granted all the microgrid’s IFOM and BTM Project Resources Permission to Operate (PTO). PTO is governed by the relevant tariff for these Project Resources (Rule 21 or WDAT).

To begin, the Awardee and SCE will create a plan, as described in the MOA, to test the microgrid’s operation and performance. This plan should include:

- Criteria used in the test (developed by SCE)
- Procedures by which to test whether the Awardee’s microgrid meets these criteria (developed by the Awardee)

When the MIP Project Commissioning Test plan is complete and approved by SCE, it will be appended to the MOA. Approval of the MIP Project Commissioning Test plan is a required milestone in the PIP and should occur at least 60 business days before the project’s scheduled Permission to Island (PTI) date.

After the MIP Project Commissioning Test plan has been approved, the Awardee and SCE will work together to perform the plan’s MIP Project Commissioning Test. During the test SCE employees can be present at any of the locations where the microgrid’s Project Resources are located.



**STAGE 4:
CONTRACTING &
DEVELOPMENT**



Islanding Operation Date (IOD)

After the MIP Project Commissioning Test is complete and approved, the Awardee is responsible for preparing a Commissioning Test Report that documents test results.

SCE will review the report and, if acceptable, issue a PTI. After a PTI is received, the Awardee will submit a MIP Project IOD confirmation notice to SCE. The MIP Project IOD confirmation notice signifies SCE has reviewed and approved the MIP Commissioning Test results. It also confirms that the project meets all MOA development terms and conditions and prompts the final Incentive Award payment.

The microgrid is considered fully operational after the submission of the MIP IOD confirmation notice to SCE. Note that “fully operational” means the microgrid is available to be operated in Island Mode, not that the microgrid is actually isolated from the larger system and being operated in Island Mode. Most of the time, the microgrid will be in Blue Sky Mode where it is connected to and operated as part of the larger electric system.

Reporting Requirements

SCE is required to report the following information to the CPUC on a quarterly basis after a MIP grant is awarded. Awardee must support SCE in compiling reporting information as requested.

- Description of efforts by stage
- Number of projects by project status
- Number of customers served by the Community Microgrids developed under the MIP
- Number of DVCs served by Community Microgrids
- Number of Critical Facilities served by Community Microgrids



STAGE 4:
CONTRACTING &
DEVELOPMENT



Stage 5: Operations

Goals:



Safely operate and maintain the microgrid through the end of its Operating Term



Provide reliable energy to DVCs

At this stage the Awardee, will have:

- Completed development of the microgrid pursuant to the MOA
- Received confirmation that the microgrid can operate safely and reliably while in Island Mode
- Established procedures and protocols that the Awardee and SCE will use to coordinate the operation of the microgrid

Once the microgrid is approved to safely operate, the 10-year Operational Term begins.

Click on a section below to learn more.

**STAGE 5:
OPERATIONS**



Operational Coordination

During the Operational Term of the MOA,

- SCE is responsible for:
 - Providing Distribution Service to the microgrid's customers
 - Operating and maintaining the microgrid's Distribution System, including all SCE-owned Distribution Upgrades, Interconnection Facilities, and Microgrid Added Facilities
- The CMG aggregator is responsible for:
 - Operating the microgrid's Project Resources and demand-side management resources, following the provisions of Electric Rule 2, the WDAT, Electric Rule 21, and any other applicable rules and standards
 - As detailed in the MOA, these rules and standards specify the frequency, voltage, and other power quality requirements required for the microgrid to safely operate
 - Costs related to the ownership, operation, scheduling, and maintenance of the microgrid's Project Resources and Balance of System to ensure the microgrid continues to be safe to island
 - Biennial Project Islanding & Safety Test

In addition to the responsibilities described in the Operational Coordination section, during the microgrid Operational Term, SCE will test the microgrid at least once every two years to confirm it can safely operate in Island Mode. Other tests might need to be scheduled at SCE's discretion.

After a test is conducted, the CMG Aggregator will need to deliver SCE a test report. This report should demonstrate the test confirmed the microgrid complies with the operating performance requirements found in the MOA.

If the microgrid fails the test, SCE may require the CMG Aggregator to develop a plan to address the issues that caused failure. Once improvements have been implemented SCE will retest the microgrid to determine compliance with the MOA's operating performance requirements.

If the microgrid continues to be out of compliance with the operating performance terms found in the MOA, the MOA may be suspended or terminated.

System Change

During the microgrid project's Operational Term, the Awardee and SCE are required to notify each other if the Awardee becomes aware of a system change not anticipated at the time of the most recently performed Microgrid Islanding Study. After this notification, both parties will work together to review the system change and determine how it might impact the operation of the microgrid. If SCE determines that the system change has the potential to adversely affect Island Mode operation, SCE may update the previous MIS to determine whether additional Added Facilities are required to maintain safe and reliable operations.

**STAGE 5:
OPERATIONS**

Project Termination

The length of the microgrid's initial Operating Term is 10 years from the date of the Microgrid's IOD. After this 10-year term ends, the Awardee's Operating Term is automatically renewed annually for one-year terms until the MOA is terminated.

The Operating Term can be terminated the Awardee and SCE mutually agree to terminate. It can also be terminated by either party if one of the following occurs:

- A new IS concludes a system change requires upgrades to the microgrid project in order to continue operating safely¹⁸
- No entity is willing to pay for the costs of conducting a new MIS upon SCE's determination that such a restudy is needed
- The Interconnection Agreement for one or more Project Resources is terminated such that, in SCE's judgement, the ability to safely and reliably operate the microgrid in Island Mode is jeopardized
- If the microgrid project fails to satisfy any of the operating performance requirements in its MOA



**STAGE 5:
OPERATIONS**



Glossary

Affected System An electric system other than the Distribution Provider's Distribution System or Transmission System that may be affected by a System Change.

Application The Application is the formal documentation package submitted to the SCE under the MIP, including an Application Development Grant, an Application Incentive Request, and a Microgrid proposal along with other required information.

Application Incentive Request (AIR) The amount of reimbursement, excluding the MIP Application Development Grant, requested by the MIP Applicant.

Application Intake Window A time period with a specific starting date and ending date in which potential MIP Applicants may apply for the MIP. SCE will determine the number of Application Intake Windows needed, the timing, and the allocation of the MIP funds for each Application Intake Window.

Balance of System All of the microgrid components owned or controlled by the MIP Awardee, other than the Project Resources and Non-Project Resources, necessary to meet the requirements of the Community Microgrid as identified in the Microgrid Islanding Study.

Behind the Meter (BTM) Electrical infrastructure, including resources, on the end-use customer side of the customer's utility billing meter. A Generating Facility may be connected BTM.

Blue Sky Mode The mode of operation when the Community Microgrid is connected to and operating in parallel with the Distribution System.

California Independent System Operator Corporation (CAISO) The entity that provides open access to the majority of the state's bulk electric power system through short-term wholesale energy and ancillary service market mechanisms.

California Public Utilities Commission (CPUC) A regulatory agency that oversees privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.

Commissioning Criteria Requirements outlined in MOA that must be satisfied by the MIP Awardee prior to Islanding Operation Date.

Commissioning Test A test that demonstrates the Community Microgrid can meet the Commissioning Criteria.

Community-Based Organization (CBO) A public or private non-profit organization having demonstrated efficacy that is representative of a community or significant segments of a community and engaged in meeting that community's needs in the areas of social, human, or health services.

Community Microgrid A microgrid with Distribution System-connected Project Resources that supply energy to at least two customers or two customer premises connected by SCE Distribution System within a Microgrid Boundary capable of Island Mode operation.

Community Microgrid Proposal A detailed description of the proposed Microgrid submitted as part of the application. The proposal identifies the proposed Microgrid Boundary, Project Resources, and known Balance of System elements, supporting engineering analysis and cost estimates as well as a proposed implementation schedule and status of all required permits.

Community Microgrid Technical Evaluation Set of studies comprised of the Interconnection Study and the Microgrid Islanding Study; used to develop Project Resource Interconnection Agreements and the Microgrid Added Facilities Agreement.

Critical Facility A facility that provides critical services to the surrounding community pursuant to the CPUC's current definition of Critical Facilities in [Rulemaking R.18-12-005](#).*

*OIR to examine electric utility de-energization of powerlines in dangerous conditions.

Development Term The period commencing on the Effective Date of the Microgrid Operating Agreement (MOA) and ending upon the Community Microgrid Island Operation Date (IOD). Community Microgrid IOD will occur no later than 24 months from the effective date, unless extended by mutual agreement with a total term not to exceed 36 months from the MOA effective date.

Distribution Service The transporting of electric power over and through various facilities owned by the Distribution Provider for delivery to a Distribution Customer. Distribution Service includes all of the associated systems necessary to effect such delivery including meter reading, billing and customer service.

Distribution System A Distribution Provider's system broadly consisting of the stepdown substations, the primary distribution circuits, and the secondary distribution system. The secondary distribution system consists of the line transformers that step the primary voltage down to a secondary voltage, and the secondary conductors including service drops and meters.

Distribution System Operator Distribution Provider acting in its role as distribution owner and operator to fulfill responsibilities associated with Distribution Service under both Blue Sky and Island Modes.

Distribution Upgrades The additions, modifications, and upgrades to Distribution Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Generating Facility and render the Distribution Service. Distribution Upgrades do not include Interconnection Facilities.

Electric Rule 2 Electric Rule 2 describes the electric service available to customers such as phase and voltage specifications, motor protection, and added facilities.

Electric Rule 21 Electric Rule 21 is a tariff that describes the interconnection, operating and metering requirements for generation facilities to be connected to a Utility's Distribution system. The tariff provides customers wishing to install generating or storage facilities on their premises with access to the electric grid while protecting the safety and reliability of the distribution and transmission systems at the local and system levels.

Engineering, Procurement, and Construction (EPC) Contractor Contractor or such person providing engineering services, purchasing equipment, and installing equipment during the Development Phase of the Microgrid Proposal.

Generating Facility All generators, electrical wires, equipment, and other facilities, excluding Interconnection Facilities, owned or provided by the Producer for the purpose of producing electric power, including storage.

High Fire-Threat District (HFTD) An area where there is an elevated risk of powerline-induced fires with the potential to spread rapidly. HFTDs are identified by the California Public Utilities Commission (CPUC). (See the CPUC's [Fire-Threat Map, Tiers 2 and 3.](#))

Incentive Award The portion of a MIP Applicant's Application Incentive Request (AIR) that is authorized for payment to the MIP Applicant and which the MIP Applicant agrees to accept in the MIP Participation Agreement or Microgrid Operating Agreement (MOA) "Rider," as applicable.

In Front of the Meter (IFOM) Generating resources that are directly connected to the Distribution System, and associated electrical infrastructure that is on the generating resource owner's side of the utility revenue meter. A Generating Facility may be connected IFOM.

Interconnection Agreement The agreement and associated documents or any successor agreement and associated documentation governing the terms and conditions of the interconnection of the Project Resource(s) with SCE's grid under the Wholesale Distribution Access Tariff (WDAT or WDT) or Rule 21 for applicable Project Resources, including any description of the plan for interconnecting the Project Resource(s) to the grid.

Interconnection Allowance An amount funded by utility ratepayers in addition to the MIP Incentive Award, the MIP Application Development Grant, and the Microgrid Added Facilities Allowance, that covers all or a portion of the costs of Interconnection Studies, Interconnection Facility Upgrades, and Distribution Upgrades identified per the applicable interconnection tariff for eligible Project Resources.

Interconnection Facilities The required electrical wires, switches and related equipment, in addition to the facilities required to provide electric Distribution Service to a customer, that allow interconnection of a Generating Facility. Interconnection Facilities may be located on either side of the Microgrid Islanding Point as appropriate to their purpose and design. Interconnection Facilities may be owned by either Producer or Distribution Provider.

Interconnection Study A study to establish the requirements for interconnection of a Generating Facility to Distribution Provider's Distribution System or Transmission System, pursuant to WDAT or Rule 21, as applicable.

Island Mode Operation of the microgrid by the Distribution Provider when the microgrid that normally operates in Blue Sky Mode is disconnected from the remainder of the Distribution System at the Microgrid Islanding Point(s). The Distribution Provider will operate the microgrid in Island Mode by:

- Direct dispatch of Project Resources within the Microgrid Boundary and/or
- By directing Project Resources to operate within parameters specified by the Distribution Provider for voltage, frequency, and power quality.

Islanding Operation Date (IOD) The date upon which the Community Microgrid has successfully demonstrated through the testing and commissioning process, that it can successfully transition from Blue Sky Mode to Island Mode, safely operate in Island Mode, and successfully transition from Island Mode to Blue Sky mode pursuant to the MOA's Operational Requirements.

Microgrid Islanding Point The point(s) on a Distribution System that allows the microgrid to separate from and reconnect to the rest of the Distribution System.

Local Government City and county governments and the governing bodies of federally recognized Tribes.

Microgrid As defined in Public Utilities Code (PUC) Section 8370 (d), a microgrid is an interconnected system of loads and energy resources, including, but not limited to, distributed energy resources, energy storage, demand response tools, or other management, forecasting and analytical tools, appropriately sized to meet customer needs, within a clearly defined electrical boundary that can act as a single, controllable entity, and can connect to, disconnect from, or run in parallel with, larger portions of the electrical grid, or can be managed and isolated to withstand larger disturbances and maintain electrical supply to connected critical infrastructure.

Microgrid Added Facilities Modifications to the Distribution Provider's Distribution Facilities required to operationalize the Microgrid Boundary and Island Mode such that the microgrid can maintain voltage, frequency, and power quality in accordance with the Distribution Provider's requirements and Rule 2.

Microgrid Added Facilities Agreement (Microgrid AFA) The agreement that describes the upgrades on the Distribution System to be installed under the terms and conditions regarding Added Facilities on file with the California Public Utilities Commission (CPUC), pursuant to Electric Rule 2, and incorporated in the Microgrid Operating Agreement (MOA).

Microgrid Added Facilities Allowance An amount funded by utility ratepayers in addition to the MIP Incentive Award, the MIP Application Development Grant, and the Interconnection Allowance to cover all or a portion of the costs of the Microgrid Added Facilities and the MIS.

Microgrid Boundary An electrically contiguous area which can be separated from the larger Distribution System at the Microgrid Islanding Point that defines a microgrid as a single, controllable entity.

Microgrid Controller The Distribution Provider's system that monitors and controls the Distribution System and Project Resources within the Microgrid Boundary when islanded, and which may coordinate with Non-Project Resources that support the microgrid.

Microgrid Incentive Program (MIP) A program to enable community-proposed Microgrids that provide enhanced resilience for vulnerable customer groups and/or critical facilities pursuant to the CPUC's Track 2 Decision.

Microgrid Islanding Study (MIS) An engineering study conducted by the Distribution Provider or its agents to determine the required modifications to and specifications for the Distribution Provider's Distribution Facilities to support Island Mode operation, including the cost and scheduled completion date for such modifications.

Microgrid Operating Agreement (MOA) An agreement between the Distribution Provider and the MIP Awardee that governs the Community Microgrid development and testing, and commercial operations to ensure safety and service quality in compliance with applicable Distribution Provider rules.

Milestones Key development activities and the agreed upon completion dates required for the development and operation of the Community Microgrid as set forth in the MOA.

MIP Applicant The person or entity who submits an Application to SCE for the MIP. Upon receiving a MIP Incentive Award, the MIP Applicant will be referred to as a MIP Awardee.

MIP Application Development Grant Reimbursement up to \$25,000 for the costs incurred in the development of an eligible MIP application; available subsequent to acceptance of Applicant's AIR whether an Applicant is awarded a MIP incentive grant or not.

MIP Awardee An Applicant to whom a partial or full MIP incentive award is offered.

Operating Term The 10-year initial period commencing on the Community Microgrid IOD as set forth in MOA; automatically renewed annually for one-year terms until termination of the MOA or expiration of a Project Resource Interconnection Agreement.

Permission to Island Distribution Provider's express written permission before a Community Microgrid may operate in Island Mode.

Permission to Operate Distribution Provider's express written permission required before a Project Resource or Non-Project Resource may parallel with the Distribution System, pursuant to applicable tariffs (Rule 21 or WDAT).

Project Implementation Plan Document mutually agreed upon by utility and applicant that details how the Community Microgrid will be safely developed and operated. Includes detailed description of milestones including tasks, schedule, and dependencies for design, construction, and testing for the Community Microgrid.

Project Resource A Generating Facility, storage technology, or load management technology that the Community Microgrid Aggregator has control over and are used to support a Community Microgrid. At least one Project Resource must have a plant controller and grid-forming capability sufficient to allow acceptable frequency and voltage during Island Mode operation. Project Resources are interconnected to the Distribution System within the Microgrid Boundary either directly as IFOM Project Resources or indirectly as BTM Project Resources pursuant to the <WDAT/WDT> or Electric Rule 21. Project Resources may or may not be owned by the MIP Awardee but are subject to the operating provisions specified in the MOA.

Rural Area Locations defined by U.S. Health and Human Services Administration as Rural.

System Change A change in Project Resources, Non-Project Resources, or customer loads within the Microgrid Boundary that was not anticipated at the time the MIS was performed, or other Affected Systems outside the Microgrid Boundary and which SCE determines may have a material impact on the ability of a Community Microgrid to safely and reliably function in Island Mode.

Wholesale Distribution Access Tariff (WDAT) The terms under which the utility provides open access to its Distribution System to wholesale customers seeking to:

- Interconnect generation facilities to the utility's Distribution System and deliver energy and capacity services to the California Independent System Operator (CAISO) controlled grid (using the utility's Distribution System), or
- Deliver energy or capacity services from the CAISO controlled grid (using the utility's Distribution System) to their customers.

AC Alternative Current
AFA Rule 2 Added Facilities Agreement
AFN Access and Functional Needs
AIR Application Incentive Request
BTM Behind-the-Meter
CAISO California Independent System Operator
CARE California Alternative Rates for Energy Program
CBO Community-Based Organization
DSO Distribution System Operator
IOD Islanding Operation Date
IOU Investor Owned Utility
IS Interconnection Study
CPUC California Public Utilities Commission
CMEP Community Microgrid Enablement Program (PG&E)
DA Direct Access
DER Distributed Energy Resource
DVC Disadvantaged Vulnerable Community
FERA Family Electric Rate Assistance Program
GHG Greenhouse Gas
HFTD High Fire-Threat District
IFOM In Front-of-the-Meter
IOD Islanding Operation Date
IOU Investor Owned Utility

MBL Medical Baseline
MIP Microgrid Incentive Program
MIPIP Microgrid Incentive Program Implementation Plan
MIS Microgrid Islanding Study
MOA Microgrid Operating Agreement
NDA Non-Disclosure Agreement
PIP Project Implementation Plan
PTI Permission to Island
SCADA Supervisory Control and Data Acquisition
PSPS Public Safety Power Shutoff
R21 Rule 21
WDAT or WDT Wholesale Distribution Access Tariff or Wholesale Distribution Tariff

GLOSSARY

Footnotes

Footnotes are listed in the order they appear in the document

1. Under certain design configurations, a brief break in service may be experienced. [BACK](#)
2. Any new MIP-funded project resource must be clean, as defined by D 21-01-018. [BACK](#)
3. The CPUC has determined that incentive funds may not be used to pay for BTM resources or load management devices. The CPUC has determined that incentive funds may be used to pay for the cost of In-Front-of-the-Meter (IFOM) resources and reconfiguring certain BTM facilities. As defined by CPUC D. 23-04-034. [BACK](#)
4. A final determination on eligibility will be made during the application phase. [BACK](#)
5. Note that a standard non-disclosure agreement (NDA) and customer consent is required at this step to protect private customer information and ensure security of the energy system. [BACK](#)
6. Ensure compliance with customer privacy protection and aggregation restrictions regarding the disclosure of information related to customers and/or facilities [BACK](#)
7. “When operating in Island Mode, the aggregate emissions from Project Resources and non-Project Resources must be no greater than equivalent grid power. Energy storage that is charged with grid power will be deemed to have the emissions equivalent of the average system emissions for the Utility.” Commission-approved Joint IOU Microgrid Incentive Program Implementation Plan, p. 20. [BACK](#)
8. Do not include interconnection facilities and distribution upgrade costs with the MIP eligible costs in the AIR. SCE will provide an interconnection allowance of up to \$1 million for eligible interconnection studies, distribution upgrades, interconnection facilities costs, and a microgrid Added Facilities allowance of up to \$3 million for an eligible Microgrid Islanding Study and other islanding costs. Note, the total amount of the AIR cannot exceed the incentive award cap (\$14 million). [BACK](#)
9. If possible, also include information on whether the Applicant’s microgrid can provide distribution service while in Island Mode beyond 24 hours. MIP application will receive additional resilience benefit points for every six hours it can provide distribution service beyond 24 hours. During the Technical Consultation, SCE will assist Applicant in identifying the expected impact of non-Project Resources on the ability to provide continuous operation of the microgrid during Island Mode operation. [BACK](#)
10. Individual customers eligible for both programs are counted only once [BACK](#)
11. Customers available for multiple programs are only counted once [BACK](#)
12. As outlined in Public Safety Power Shutoff Phase 1 Decision 19-05-042, Phase 2 Decision 20-05-051 and Phase 3 Decision 18-12-005 [BACK](#)
13. The Commission-approved Microgrid Incentive Program Implementation Plan (MIPIP) caps the Island Duration Resilience Benefit points at 4 consecutive days. MIPIP, p. 31. [BACK](#)
14. The MIP is intended to support the community’s development of a microgrid, not to support the community’s ongoing costs of maintaining microgrid capability once the microgrid has entered commercial operation. Accordingly, SCE is not extending the generator interconnection upgrade Allowance to any generator interconnection-related upgrade costs that are identified in generator interconnection agreements which are finalized after the MOA is finalized. [BACK](#)
15. SCE and any potential or actual MIP Applicant shall attempt in good faith to resolve any dispute arising out of, or relating to, the development of MIP applications and the related MIP award decisions made by SCE promptly by negotiations between SCE or its designated representative and the MIP Applicant or its designee. The aggrieved party must give the other party written notice of any dispute. Within thirty calendar days after delivery of the notice, the parties shall meet, and attempt to resolve the dispute. If the matter has not been resolved within thirty calendar days of the first meeting, any party may pursue other remedies including mediation. All negotiations and any mediation conducted pursuant to this dispute resolution provision are confidential and shall be treated as compromise and settlement negotiations, to which Section 1152.5 of the California Evidence Code shall apply; provided, that either party may disclose information related to these negotiations to the extent required by law. Notwithstanding the foregoing provisions, a party may seek a preliminary injunction or other provisional judicial remedy if in its judgment such action is necessary to avoid irreparable damage or to preserve the status quo. In the event of any conflict between the provisions of this dispute resolution provision, any applicable dispute resolution terms in a related tariff, and any applicable dispute resolution terms in any bilateral agreement in effect between the parties, the tariffed dispute resolution terms shall govern first, and contractual dispute resolution terms shall be applied second. [BACK](#)
16. The MIP is intended to support the community’s development of a microgrid, not to support the community’s ongoing costs of maintaining microgrid capability once the microgrid has entered commercial operation. Accordingly, SCE is not extending the Added Facilities Allowance to any special facility costs that are identified in Added Facilities agreements which are finalized after the MPMOA is finalized. [BACK](#)
17. The MIP provides an Awardee up to a \$1,000,000 “allowance” for distribution upgrades required to interconnect new IFOM generation developed by the Awardee on behalf of the community. The sum of (i) the \$1,000,000 “allowance,” and (ii) the \$14,000,000 for the combined Development Grant and incentive award, is the \$15,000,000 per Community Microgrid cap referenced in the CPUC decision. [BACK](#)
18. IF the CMG Aggregator does not pay for the necessary upgrade costs identified from the MIS results. If the CMG Aggregator is willing to make upgrades, the Microgrid may need to be temporarily disabled until the upgrades are completed but the projected wouldn’t be terminated. [BACK](#)

FOOTNOTES