

Short-Term Actions to Accelerate the Deployment of Microgrids and Related Resiliency Solutions Webinar



Energy Division – Resiliency and Microgrids

January 27, 2020



OBJECTIVES

To improve understanding of the staff and IOU proposals in order to inform parties' comments on the proposals and build a sound record on which to base a decision.



AGENDA

10:00- 10:10	Logistics/Intro
10:10-10:30	Energy Division Staff Proposal
10:30-10:55	Q&A
10:55-11:15	PG&E Presentation
11:15-11:40	Q&A
11:40-11:45	SDGE Presentation
11:45-11:50	SCE Presentation
11:50-12:00	Q&A



ISSUES WITHIN SCOPE OF TRACK 1

1. Prioritizing and streamlining interconnection applications to deliver resiliency services at key sites and locations
2. Modifying existing tariffs to maximize resiliency benefits
3. Facilitating local government access to utility infrastructure and planning data to support the development of resiliency projects
4. Investor Owned Utility proposals for immediate implementation of resiliency strategies, including partnership and planning with local governments.



ISSUES WITHIN SCOPE OF TRACK 1

1. Prioritizing and streamlining interconnection applications to deliver resiliency services at key sites and locations
2. Modifying existing tariffs to maximize resiliency benefits
3. Facilitating local government access to utility infrastructure and planning data to support the development of resiliency projects
4. Investor Owned Utility proposals for immediate implementation of resiliency strategies, including partnership and planning with local governments.



PROBLEM

While small NEM projects are typically interconnected efficiently, larger, more complex project can face significant delays. This is especially true of projects that provide resiliency, since they typically require more extensive review than do those projects that cannot provide resiliency. Stakeholder report that these delays have slowed the adoption of DER technologies that could support resilience.

GUIDING PRINCIPLES

- Reduce the amount of time required to interconnect distributed energy resources that support resiliency
- Maintain the safety and reliability of the electric grid
- Ensure just and reasonable rates for participating and non-participating customers



PROPOSAL 1: USE PRE-APPROVED DESIGNS IN APPLICATION PROCESS

Proposal: Require the development of template-based application processes for the following project types: (1) Rule 21 non-export storage, (2), NEM + Paired storage (AC Coupled and DC coupled), and (3) Net Energy Metering (NEM) Solar. Single line diagrams for each system types should be developed by one of the following options:

- Option 1: Require the IOUs to informally consult with industry, develop, and publish preapproved template single line diagrams
- Option 2: Require the IOUs, along with stakeholders to convene an expedited technical working group to develop the single line diagrams
- Option 3: Require the IOUs to develop a process to receive, review, and approve standard diagrams from individual contractors

Recommendation: Staff recommends the adoption of Option 1

Rationale:

- The use of a published set of single line diagrams will expedite the interconnection process and inform developers how to design their projects
- Option 1 limits the number of single line diagrams that will be required while maximizing their efficacy
- The formation of a working group (such as the one proposed in Option 2) may take several months to convene and deliver results



PROPOSAL 2: EXPEDITE UTILITY SIGN-OFF ON INSTALLED PROJECTS

Proposal: This proposal seeks to reduce delays due to IOU site inspections via the following options:

- Option 1: Require that the IOUs publish the specific technical criteria they use to determine where field inspections are necessary for the safety and reliability of the grid
- Option 2: Require that the IOUs eliminate inspections that duplicate those conducted by local jurisdictions, if any, unless they are substantively different
- Option 3: In cases where an inspection is deemed necessary, require that the IOUs must consider accepting photos or videos, along with an attestations of their accuracy, from the contractor rather than requiring an in-person inspection

Recommendation: Staff recommends the adoption of Options 1, 2, and 3

Rationale:

- Option 1: Transparency – Published inspection criteria will give customers and developers a better sense of what inspection to expect
- Option 2: Eliminate Duplicative Efforts – Delays due to field inspections that are duplicative of inspections performed by local jurisdictions are avoidable
- Option 3: Leverage Virtual Inspections – In-person inspections, while sometimes necessary, can cause project delays, increase project costs, and keep utility personnel from other tasks



PROPOSAL 3: PRIORITIZE INTERCONNECTION OF KEY LOCATIONS, CUSTOMERS, AND/OR FACILITIES

Proposal: Interconnection applications for projects that require review and/or assessment of interconnection upgrade costs are placed in the interconnection “queue” and studied in order. This proposal seeks to reduce queue delays via the following options:

- Option 1: Require the IOUs to develop new rules to allow eligible projects to move ahead of other projects in the queue (often referred to as "queue jumping")
- Option 2: Require the IOUs to develop a second “priority” queue for eligible projects, which effectively works in parallel with the existing queue
- Option 3: Require the IOUs to commit additional staff and information technology resources to their interconnection study and distribution upgrade teams

Recommendation: Staff recommends the adoption of Options 1 and 3

Rationale:

- Option 1: Most consistent with the goal of mitigating the impacts of PSPS events
- Option 3: Will potentially expedite interconnections across all project types
- Staff concerns about Options 1 and 2:
 - Queue interdependencies may mean that queue jumping would necessitate restudies
 - Prioritizing some projects would likely delay other projects
 - Could increase uncertainty for developers and customers already in the queue



PROPOSAL 4: ALLOW THE USE OF SMART METERS FOR ELECTRICAL ISOLATION

Proposal: Stakeholders propose that, in advance of outage events, the utility should use their Advanced Metering Infrastructure network to disconnect specific customers in order to electrically isolate them, allowing them to safely utilize back-up power within their homes without risking backfeed onto the grid

Recommendation: Staff does not recommend the adoption of Proposal 4

Rationale:

- Technical and logistical elements have yet to be fully clarified—proposal will likely require significant time and stakeholder engagement to flesh out



ISSUES WITHIN SCOPE OF TRACK 1

1. Prioritizing and streamlining interconnection applications to deliver resiliency services at key sites and locations
2. **Modifying existing tariffs to maximize resiliency benefits**
3. Facilitating local government access to utility infrastructure and planning data to support the development of resiliency projects
4. Investor Owned Utility proposals for immediate implementation of resiliency strategies, including partnership and planning with local governments.



PROBLEM 1

- Net energy metering (NEM) is a tariff that allows a customer to self-generate at one time and use the bill credits from that generation at another time.
- Many energy storage systems qualify for NEM eligibility by including equipment that prevents electricity that has been imported from the grid from charging the storage device.
- Therefore, the energy storage systems that are using NEM for its primary purpose (rate optimization) are also the systems prevented from charging from the grid in advance of announced outage events, which can diminish their ability to provide resilience.

PROBLEM 2

- Existing NEM rules based limit the size of an energy storage system that can be paired with a NEM-generating facility.
- Those rules limit the size of the storage system to 150 percent of the generating facility's maximum output capacity.
- This sizing requirement restricts a customer's ability to simultaneously participate in the NEM tariff and also maximize the resiliency benefits that larger storage systems could provide during an extended grid outage.
- Under the existing set of statutory and tariff rules, a customer whose primary purpose is resiliency may forgo the opportunity provided by NEM tariff to accelerate their financial investment payback.



GUIDING PRINCIPLES

- Reduce tariff barriers for distributed energy resource use cases that support resilience
- Maintain the integrity of existing tariffs that are intended to reward production of on-site renewable energy
- Maintain the safety and reliability of the electric grid
- Ensure just and reasonable rates for participating and non-participating customers
- Provide flexibility to customers to improve their own resiliency



PROBLEM 1: STORAGE CHARGING LIMIT

Problem: Energy storage projects that qualify for NEM by preventing grid charging might not be able to fully charge ahead of announced outage events

Proposal: These energy storage systems may temporarily charge from the grid ahead of announced PSPS events.

Proposal 1: Energy storage systems may, in advance of PSPS events, both import from and export power to the grid

Proposal 2: Energy storage systems may, in advance of PSPS events, import from (but not export to) the grid

Recommendation: Staff recommends the adoption of Proposal 2

Rationale:

Improved ability of energy storage systems to provide backup power

Minimal risk to NEM integrity goals

Proposal 2 will better maintain NEM integrity than will Proposal 1



PROBLEM 2: STORAGE CAPACITY LIMIT

Problem: NEM rules that limit the size of large (>10 kW) NEM-paired energy storage projects to 150 percent of the capacity of the NEM-generating facility restrict customers' ability to participate in NEM and maximize resiliency

Proposals:

Proposal 1: Remove the storage sizing limit for large NEM-paired storage, maintain existing metering requirements, and require large NEM-paired storage be designed to operate independently from the grid in the event of a grid outage

Proposal 2: Remove the storage sizing limit for large NEM-paired storage and maintain existing metering requirements

Recommendation: Staff recommends the adoption of Proposal 1

Rationale:

Removing capacity limit increases resiliency benefits of NEM-paired storage

Maintaining existing metering requirements will maintain NEM integrity goals

Proposal 1 allows for greater resiliency potential than Proposal 2



ISSUES WITHIN SCOPE OF TRACK 1

1. Prioritizing and streamlining interconnection applications to deliver resiliency services at key sites and locations
2. Modifying existing tariffs to maximize resiliency benefits
3. **Facilitating local government access to utility infrastructure and planning data to support the development of resiliency projects**
4. Investor Owned Utility proposals for immediate implementation of resiliency strategies, including partnership and planning with local governments.



PROBLEM

Local government agencies have expressed interest in distributed energy resources for community resilience against PSPS events. To this end they need access to utility information to make investment and operational decisions. These agencies, however, have expressed the following concerns:

- Barriers to accessing and using information currently provided by utilities, including:
 - Incomplete datasets
 - Obscured or unusable data
 - Data not centralized
- No access to utility planned PSPS mitigation projects.
- IOUs should consult local government agencies about siting of local resilience solutions

GUIDING PRINCIPLES

- Foster collaborative problem solving
- Enable local government to protect lives and the health of their communities
- Support equitable access to utility information
- Build upon existing emergency planning exercises conducted pursuant to GO 166



PROPOSAL 1: CONDUCT OUTREACH ON UTILITY INFRASTRUCTURE

Proposal: Require IOUs to:

- Develop or ensure effective internal processes to interact with local governments
- Inform local governments about electric transmission and distribution investment and operational plans that would help minimize the use of PSPS events
- Hold face-to-face workshops to educate local jurisdictions on electric transmission and distribution infrastructure serving their communities

Recommendation: Staff recommends the adoption of Proposal 1

Rationale:

- Gaining a basic understanding of PSPS event causes and mitigation initiatives will allow local governments to make informed planning decisions for resilience project efforts



PROPOSAL 2: RESILIENCY PROJECT ENGAGEMENT GUIDE

Proposal: Require IOUs to:

- Develop a flowchart depicting how to engage the IOUs on resiliency projects
- List a set of best practices for successful project implementation

Recommendation: Staff recommends the adoption of Proposal 2

Rationale:

- A simple step-by-step guide communicating best practices and lessons learned will help guide local governments in the early stages of resilience project planning



PROPOSAL 3: DEDICATED IOU TEAM FOR LOCAL GOVERNMENT PROJECTS

Proposal: Require IOUs to:

- Create a dedicated team of IOU staff to manage intake of local government resiliency projects
- Provide a single point of contact for local governments to receive pre-application consulting services

Recommendation: Staff recommends the adoption of Proposal 3

Rationale:

- Adding additional positions to IOUs' distribution planning teams would allow the IOU to build specialized expertise, provide organizational stability to support community resiliency projects, and allow for quicker processing of a larger volume of resiliency project applications



PROPOSAL 4: DEVELOPER INTERCONNECTION TRAINING

Proposal: Require IOUs to:

- Develop an interconnection orientation and training program for developers to reduce interconnection application times

Recommendation: Staff does not recommends the adoption of Proposal 4

Rationale:

- This option requires additional discussion on details and execution of the orientation and training and would likely have a timeline that extends beyond Summer 2020



PROPOSAL 5: SEPARATE PORTAL FOR LOCAL GOVERNMENT

Proposal: Require IOUs to:

- Develop a separate, access-restricted portal for local governments to access IOU data to help identify microgrid development opportunities

Recommendation: Staff recommends the adoption of Proposal 5

Rationale:

- Having an access-restricted portal for local governments would foster a better understanding of the distribution system to identify development opportunities for microgrids



ISSUES WITHIN SCOPE OF TRACK 1

1. Prioritizing and streamlining interconnection applications to deliver resiliency services at key sites and locations
2. Modifying existing tariffs to maximize resiliency benefits
3. Facilitating local government access to utility infrastructure and planning data to support the development of resiliency projects
4. **Investor Owned Utility proposals for immediate implementation of resiliency strategies, including partnership and planning with local governments.**

Resources are located here:
www.cpuc.ca.gov/resiliencyandmicrogrids



Thank You!