

DOCKETED

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**State of California
California Energy Commission
Memorandum**

To: Drew Bohan
Executive Director

Date: May 1, 2023
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Subject: Staff review of SMUD's revised application to administer a community solar program pursuant to section 10-115 of the 2022 California Energy Code

Background

Starting with the 2019 California Energy Code¹, community-shared solar electric ("community solar") systems, if approved by the California Energy Commission (CEC), can be substituted for individual on-site solar electric system requirements in the Energy Code. Any entity may apply to the CEC for approval to administer a community solar program that meets the requirements in section 10-115. The application must demonstrate to the CEC's satisfaction that each of the requirements specified in section 10-115 will be met and include detailed explanations of the actions that will be taken by the applicant. All applicants have the burden of proof to establish that their application should be granted.

In 2019, Sacramento Municipal Utility District (SMUD) applied to become the administrator of the community solar program for low-rise residential buildings, under the 2019 Energy Code, in SMUD's service area, called Neighborhood SolarShares (NSS), and was approved by the CEC at the February 20, 2020, Business Meeting.

In the 2022 Energy Code, the CEC revised requirements in Section 10-115 relating to the administration of community solar programs. Section 10-115(c)(2) requires the administrator of an approved community solar program to submit a revised application if there are changes in the section 10-115 requirements. Such modified requirements would not apply retroactively to the continued use of previously approved renewable resources developed to serve a community shared solar electric generation system and/or community shared battery storage system. The regulations require the CEC Executive Director to make a determination on whether to approve the application within sixty days of a complete application being received.

¹ California Code of Regulations, Title 24, Part 1, Chapter 10, and Part 6

SMUD's 2022 Energy Code Revised Application

SMUD submitted a complete revised application on March 3, 2023², to demonstrate compliance with the revised section 10-115 requirements in the 2022 Energy Code as required in section 10-115(c)(2). SMUD did not apply to extend their NSS program to include a community solar program for high-rise multi-family or nonresidential buildings in the 2022 Energy Code.

The following summarizes key updates to section 10-115 in the 2022 Energy Code, then discusses the respective changes that SMUD made in their revised application to correspond with these regulatory updates, and then provides staff's conclusion with respect to SMUD's application.

1) Participation: Section 10-115(a)(4)(B)

This new section of the Energy Code (Title 24, Part 6) continues the 2019 Energy Code requirement that all participating buildings remain enrolled in the community solar program for at least 20 years (the "Participation Period"), regardless of who owns or occupies the building. The 2022 Energy Code allows the building owner to discontinue participation consistent with the new "Opt-Out Requirements," demonstrating that the building owner installs an on-site solar electric generation system that meets or exceeds the requirements of the Energy Code in effect at the time the builder applied for the original building permit for the participating building. Section 10-115(a)(4)(B) requires Administrators to ensure that participating builders make participation legally binding either through an equitable servitude recorded with the deed for the property or through another method approved by the CEC.

SMUD's Changes in the Revised Application

SMUD's previously approved NSS program complied with the 2019 Energy Code requirement for the 20-year participation period. SMUD's previously approved NSS program encouraged compliance with the 20-year period by requiring participating builders to provide equitable servitude by including and recording appropriate covenants, conditions, and restrictions (CC&Rs) in the deed transferring title for each participating building. In its 2022 Energy Code revised application, SMUD documents how it will allow participating buildings that enroll in SMUD's NSS program (including those who enrolled under the 2019 Energy Code) to opt out if those participating buildings and building owners satisfy the Opt-Out Requirements as set forth in the 2022 Energy Code. SMUD updated its sample CC&R language (included in Appendix D of the revised application) to align with the 2022 Energy Code's new opt-out provisions. SMUD also added to Appendix D a sample Deed Restrictive Covenant to be used for participating buildings that do not normally have CC&Rs.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(4)(B) requirements.

² The CEC Executive Director is required to make a determination SMUD's application by May 2, 2022.

2) Compliance Documentation: Section 10-115(a)(4)C

This new section requires the Administrator to “maintain record(s) of the compliance documentation that determined the requirements for the on-site solar electric generation system and/or battery storage system to comply with the Energy Code in effect at the time the builder applied for the original building permit, and which establishes participants’ obligations to meet the Opt-Out Requirements. The Administrator shall provide a copy of this compliance documentation upon a participating building owner’s request, to every new owner of a participating building when the Administrator is notified that title has transferred, and to any participating building owner who requests to Opt-Out.”

SMUD’s Changes in the Revised Application

SMUD will retain the Energy Code documentation that demonstrates the on-site solar required to meet the Energy Code. SMUD will retain a digital copy of the original compliance documentation, or CF1R, for the duration of the NSS Participation Period for each participating building. This compliance documentation specifies the energy budget and minimum system size that would be required for an on-site PV system, based on specified orientation and shading characteristics. The retained CF1R will be made available to a contractor or building department upon request by the participating customer of record. If a participating customer desires to install a behind-the-meter solar generation system and opt out of NSS participation, SMUD will refer to the retained CF1R during the interconnection process to confirm the opt-out requirements are satisfied.

CEC Staff’s Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(4)(C) requirements.

3) Building Opt-Out: Section 10-115(a)(4)D

This new section requires that participating building owners shall have the ability to opt out of the community solar program if the participating building satisfies the Opt-Out Requirements. Prior to Opt-Out, the building owner shall demonstrate that they have installed such an on-site solar electric generation system and met the Opt-Out Requirements by providing documentation from the installer of the on-site solar system or an attestation of the building owner with supporting documentation. Upon receiving documentation regarding Opt-Out from a building owner, the Administrator shall compare the documentation to the compliance documentation specified in Section 10-115(a)4C and confirm whether, based on the documentation, the installed solar electric system meets or exceeds the Opt-Out Requirements. The Administrator shall maintain record of the documentation that demonstrates and confirms the on-site solar electric generation system met the Opt-Out requirements for the remainder of the Participation Period. Upon a building owner’s exercise of the Opt-Out, all costs and benefits associated with participation in the community solar program shall cease. The Administrator (or other entity approved by the CEC pursuant to Section 10-115(a)4Bii) shall not impose any penalty related to a participating building’s Opt-Out, or charge participants for recuperation of unrealized revenue that would have been expected to accrue beyond the end of participation.

SMUD's Changes in the Revised Application

SMUD's previously approved NSS program did not allow participants to opt out. The revised application documents that if a participating building owner elects to opt out of NSS, SMUD will require that building owner to install a behind-the-meter photovoltaic (PV) system and satisfy the Opt-Out Requirements. SMUD will only approve opt-out requests when the proposed on-site PV system has the characteristics needed to meet or exceed the energy budget on the retained CF1R. If a participating building owner elects to install an on-site PV system, SMUD may require that building to opt out of the NSS program. Section 2.4.4 of SMUD's Revised Application describes how SMUD's revised program aligns with these new requirements and sets forth the process SMUD will follow to ensure that opt-out requests are processed in compliance with Section 10-115(a)(4)(D).

CEC staff is developing a new compliance software module that will enable owners of participating buildings seeking to opt out to demonstrate that their proposed PV system meets or exceeds the energy budget requirements on the original CF1R, and thus satisfies the Opt-Out Requirements, even if the size, orientation, or shading of the proposed system has changed relative to the characteristics on the original CF1R. The new module will provide as outputs the compliance report, which will specify whether the proposed on-site PV system complies with the Energy Code PV requirements in place at the time the original building permit was applied for, and the installation documentation, which will be completed by the installer and document the installed solar electric system information and verify the solar access. SMUD will rely on the participating building owner attestation, and once available, the documentation associated with the new module to verify that the opt-out requirements are met.

If SMUD staff determines that the participating building has met the Opt-Out Requirements and has satisfied all other applicable interconnection requirements, SMUD will thereafter remove the participating building from the NSS.

After a participating building discontinues participation in SMUD's NSS program, SMUD will retain a record of the documentation that demonstrates and confirms the on-site solar generation system met the Opt-Out Requirements.

When a participating building satisfies the Opt-Out Requirements and thereafter discontinues participation in NSS, all bill charges and credits to the participating building will cease. If any balance of costs or benefits is owed to either SMUD or the participating customer account at the time the participating building discontinues participation in SMUD's NSS program, such costs will be paid to that party. SMUD will not impose any penalty relating to a participating building's opt-out, nor will SMUD charge participating buildings for recuperation of unrealized revenue that would have been expected to accrue beyond the end of participation.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(4)(D). At the time that SMUD's 2019 Energy

Code application was approved, SMUD indicated that they would allow on-site solar to be installed in combination with shares of SMUD's NSS program, anticipating that participating building owners may want to do this to meet additional electric loads such as for electric vehicles or all-electric homes. Now that SMUD is incorporating the ability for participating buildings to opt-out, SMUD has changed their application to indicate they may require the building owner participants of the NSS program to opt-out if they want to install on-site solar. This SMUD policy is consistent with Section 10-115(a)(4)(D).

4) Additionality: Section 10-115(a)(5)

The 2019 Energy Code section 10-115(a)5 required an approved community solar program to provide the energy savings benefits as an alternative to on-site solar exclusively to the participating building(s). Those energy savings benefits in no way were allowed to be attributed to other purposes or transferred to other buildings or property. This section was expanded substantially in the 2022 Energy Code. Participating building(s) were required to be served primarily by renewable resources developed specifically for the community solar electric generation system. Other renewable resources may be used when participating buildings are permitted before the renewable resources developed for the program start operating or after they cease operating. All renewable resources in the community shared solar electric system that are used to serve participating buildings, and their bundled (Product Content Category 1) Renewable Energy Credits are required to be retired and tracked in the Western Renewable Energy Generation Information System (WREGIS) on the behalf of program participants, to ensure that they will not be allocated to or used for any other purpose. Renewable resources developed to serve participating buildings may also be used to serve other loads when there is excess generation beyond what is needed to serve participating buildings.

SMUD's Changes in the Revised Application

The 2022 Energy Code revisions regarding additionality did not necessitate any material changes to SMUD's program. SMUD's previously approved 2019 Energy Code community solar program included an approved backup or bridge renewable generation resource developed specifically for the community solar electric generation system, in the event a primary resource became unavailable. Pursuant to section 10-115(c)2, these previously approved resources cannot be retroactively disapproved by the 10-115 changes in the 2022 Energy Code.

The Wildflower generator, a 13 MW solar resource that is located on SMUD's distribution system, was developed specifically to serve the NSS program and is anticipated to satisfy the demand of participating buildings at least through 2025. The existing resources approved in SMUD's 2019 Energy Code application have not been used at all to date. Consistent with the section 10-115(a)(5)(B), under specified circumstances, SMUD may rely on the previously approved other renewable resources as a bridge or backup as may be needed. SMUD will continue taking reasonable measures to avoid the need to use bridge or backup resources.

If Wildflower is anticipated to become fully subscribed and SMUD continues accepting NSS reservations, SMUD has indicated they will initiate development

of new program resources. SMUD will take reasonable measures to ensure such resources come online before Wildflower is fully subscribed to minimize the potential need for bridge resources to temporarily serve program demand.

Consistent with their 2019 Energy Code application, SMUD established an extensive process of retiring and tracking bundled RECs through WREGIS all renewable resources that are used to serve the demand of participating buildings. In addition, the Center for Resource Solutions Green-e certification program includes annual auditing of the NSS to verify that Green-e requirements for resource eligibility and additionality are met. Also, consistent with the California Air Resources Board (CARB) administered Voluntary Renewable Energy (VRE) Program rules, SMUD will have VRE carbon allowances retired on behalf of participating buildings. SMUD's 2022 Energy Code application continues all of this tracking and verification.

Appendix B of SMUD's 2022 Energy Code application documents SMUD's renewable resources used for NSS and how the energy generated by those resources are allocated to participating buildings. Appendix C provides explanatory information regarding how bundled Renewable Energy Credits are retired and tracked in WREGIS and verified through Green-e certification.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(5) requirements.

5) Location: Section 10-115(a)(6)

This new section requires that the community shared solar electric generation system be located on a distribution system of the load serving entity providing service to the participating buildings.

SMUD's Changes in the Revised Application

The 2022 Energy Code revisions regarding location did not necessitate any changes to SMUD's program. Pursuant to section 10-115(c)2, SMUD's previously approved resources (Wildflower and existing backup or bridge renewable resources) cannot be retroactively disapproved by the 10-115 changes in the 2022 Energy Code. NSS currently sources all of its renewable energy from the Wildflower generator, which is located on SMUD's distribution system. Any future resources developed to serve the program will be located on SMUD's distribution system. To date the existing backup or bridge resources have not been used. SMUD does not anticipate relying on bridge or backup resources to serve future NSS demand. All of SMUD's previously approved existing backup or bridge resources are on SMUD distribution lines³ except for Rancho Seco II, which is on SMUD's transmission system.

³ SMUD's distribution system consists of three voltage classes available to customers, where SMUD provides power below 100 kV.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(6). Section 10-115(a)(6) does not apply to SMUD's previously approved, existing backup and bridge resources.

6) Size: Section 10-115(a)(7)

This new section requires that the community shared solar electric generation system cannot be served by any individual source larger than 20 MW.

SMUD's Changes in the Revised Application

The 2022 Energy Code revisions regarding size required no changes to SMUD's program. SMUD's previously approved resources (Wildflower and existing backup or bridge renewable resources) cannot be retroactively disapproved by the 10-115 changes in the 2022 Energy Code. As noted above, the Wildflower solar resource is 13 MW and is currently generating substantially more electricity than is necessary to meet all of the demand of NSS participating buildings. For the NSS program, SMUD will only develop new resources, that are 20 MW or less, if new resources beyond Wildflower are needed to serve future program demand. SMUD will take reasonable measures to minimize the need for any bridge or backup resources to temporarily serve program demand. All of SMUD's previously approved existing backup or bridge resources are 5 MW or less except for Rancho Seco II, which is 160 MW.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(7) requirements. Section 10-115(a)(6) does not apply to SMUD's previously approved, existing backup and bridge resources.

7) Accountability and Recordkeeping: Section 10-115(a)(8)A

This new sub-section requires that each year beginning 12 months after initial approval, the Administrator must provide to the CEC a report demonstrating the previous year's compliance with each requirement of Section 10-115.

SMUD's Changes in the Revised Application

In its revised application, SMUD committed to providing an annual report to the CEC, demonstrating SMUD's ongoing compliance with Section 10-115 for each program year, by the end of the following calendar year. SMUD committed to submit its report on the 2021 program year to the CEC by the end of February 2023.

SMUD completes the entry into WREGIS of all renewable resource generation that serves the demand of participating buildings in the NSS program at the end of each calendar year. Thereafter, the WREGIS RECs retirement and verification process is completed by the end of the first quarter. The CRS Green-e program requires an audited report of the

RECs for the NSS program to be submitted by June, and issues the certification letter by October. CARB VRE program: CARB requires eligible generators, generation and retired RECs to be listed and reported to them by July. Compilation of all of this information can be provided on the timeline that SMUD committed to in the revised application.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(8)A.

The following summarizes other changes that SMUD made in their revised application related to provisions of section 10-115 for which there were only limited or no changes in the 2022 Energy Code. The changes that SMUD made significantly improve the clarity of their application. Staff reviewed these changes to SMUD's application for consistency with the entirety of section 10-115.

1) Enforcement: Section 10-115(a)(1)

This section was not changed in the 2022 Energy Code. It requires that community solar program administrators take actions to enable local building departments to easily do enforcement when the community solar option is chosen for buildings to show compliance. The renewable resources used for the community shared solar system must be installed and available for enforcement agency site inspection, no later than the point in time the enforcement agency must physically verify compliance of the building and must not cause delay in the process of enforcement review and approval of that building. All documentation for the community solar electric generation system and/or community solar battery storage system that is required to demonstrate compliance for the building must be completed prior to building permit application.

SMUD's Changes in the Revised Application

SMUD's revised application makes clarifying changes to their previously approved application to explain how SMUD will comply going forward. Upon request from a local enforcement agency, SMUD will provide documentation regarding program resources. SMUD will also identify the resource(s) to be used to allocate shares to participating buildings and provide supporting documentation. SMUD will ensure that any program resources dedicated to a participating building are available for inspection no later than when the enforcement agency would otherwise inspect that building for compliance with the Energy Code. Upon request, SMUD will provide information pertaining to the performance characteristics of program resources. SMUD will work with local enforcement agencies to schedule inspections of the program resources and supply required documentation as early as the enforcement agency requires, to avoid any delay in the review and approval of participating buildings.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the

2022 Energy Code section 10-115(a)(1).

2) Energy Performance: Section 10-115(a)(2)

This section was not changed in the 2022 Energy Code. It requires the community shared solar electric generation system be demonstrated to provide the same or better energy performance to the partial or total compliance with the energy performance of the on-site solar electric generation and/or battery storage system that would otherwise have been required for the building, computed by Energy Code compliance software approved for use by the CEC.

SMUD's Changes in the Revised Application

SMUD made only limited changes to their previously approved application to explain how SMUD will comply going forward. When a new generator is added to the NSS program resources, SMUD will continue to work with CEC staff to demonstrate to the staff's satisfaction that the NSS allocations to participating buildings will equal or exceed the energy budget simulated by the Energy Code compliance software for the on-site PV system that otherwise would be required if the building did not participate in the NSS program. SMUD will continue to work with CEC staff to identify programming changes that will be necessary to enable Energy Code compliance software to model and determine the size of NSS allocations needed for each participating building. SMUD will continue to work with the participating builders to help SMUD's NSS Program ensure that they properly perform and provide the Energy Code compliance simulations and documentation necessary to demonstrate compliance. SMUD will then ensure that the NSS generation allocated to that participating building equals or exceeds that determined by the compliance software to match the energy budget generation simulated for the on-site PV system. SMUD also made clarifying changes to Appendix B of the revised application to explain how SMUD will develop an allocation table for each new program resource, which provides the percentage of annual generation occurring in each time-of-day period in each day of the year based on modeling of the performance characteristics of the resource using CEC-approved compliance software. The allocation table is used to specify how much NSS generation will be allocated to a participating building in each time-of-day period to establish energy bill credits.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(2).

3) Participating Building Energy Savings Benefits: Section 10-115(a)(3)

This section was only changed to clarify language that had previously been confusing to some. The community shared solar electric generation system is required to provide energy saving benefits directly to the participating building. The energy savings benefits allocated to the building are required to result in reductions in the building's energy bills. Those reductions in the building's energy bill are required to be greater

than the cost for the building to participate in the system.

SMUD's Changes in the Revised Application

SMUD made only limited changes to their previously approved application to explain how SMUD will comply going forward. SMUD will continue to allocate the NSS charges and credits to participating customers. SMUD's pricing in the program will ensure that participating customers receive a \$10 per kW net benefit (credits in excess of charges) for each year over the 20-year term of participation for each participating building. SMUD informational materials will clearly and simply communicate charges and credits to participating customers. SMUD further clarified how the charges and credits are determined and allocated to energy bills in Appendix A of the revised application.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(3).

4) Durability: Section 10-115(a)(4)A

This section was not changed in the 2022 Energy Code. It requires the community shared solar electric generation system and/or community shared battery storage system to be designed and installed to provide the energy savings benefits to the dedicated participating building(s) for a period of no less than twenty years.

SMUD's Changes in the Revised Application

SMUD made no changes to their previously approved application that would change their compliance with this requirement.

CEC Staff's Review

Staff finds that the revised application demonstrates compliance with the 2022 Energy Code section 10-115(a)(4)A.

Recommendation to Executive Director

CEC staff has reviewed SMUD's revised community solar application for the 2022 Energy Code and recommends approval.