

***BIC Regular Meeting
of
January 18, 2023***

Agenda Item 7

SolarAPP+ for Rooftop Solar Permitting

Building Inspection Commission

January 18, 2023

SolarAPP+

SolarAPP+

Free tool developed by the U.S. Department of Energy's National Renewable Energy Laboratory

Designed to help local governments streamline and automate solar installation permitting

The screenshot shows a digital approval record for a solar project. At the top left is the SolarAPP logo. Below it is the date 'Feb 21, 2021'. The main title is 'SolarAPP Project Approval Record' in bold, followed by the project name 'Baldwin PV Project'. The record is divided into two columns: 'Project Information' and 'Contractor Information'. The Project Information column lists: Project Type (Rooftop solar), System Size (kW) (12), AHJ (Modesto, California), SolarAPP eligibility (Confirmed), Address (10 Main Street, Modesto, CA 95354), and Name of AHJ (12 kW rooftop residential solar PV). The Contractor Information column lists: License 1 Type (29420957) and License 1 Number (242376225). At the bottom left is a QR code with the text 'Scan code to open project'. At the bottom right is the Approval ID: 2473208723 and the URL solarapp.com/project/2473208723.

Project Information		Contractor Information	
Project Type	Rooftop solar	License 1 Type	29420957
System Size (kW)	12	License 1 Number	242376225
AHJ	Modesto, California		
SolarAPP eligibility	Confirmed		
Address	10 Main Street Modesto, CA 95354		
Name of AHJ	12 kW rooftop residential solar PV		

Approval ID: 2473208723
solarapp.com/project/2473208723

SolarAPP+

Goal

Transition to online permit application and automated, instant permit issuance for rooftop photovoltaic systems for eligible solar projects

Strategy

Conduct a pilot program using the SolarAPP+ web application to apply for a permit to for rooftop photovoltaic systems 10kWdc or less on single or two family homes

Objective

100% of the 2023 solar installation permits for rooftop photovoltaic systems 10kWdc or less on single or two family homes in San Francisco are applied for and issued online

SolarAPP+

How it Works Currently

Contractors prepare and submit plans for review with Solar PV (photovoltaic) permit application

Options

1. Apply for a building permit and electrical permit using form 3/8
2. Submit PV (Photovoltaic) plans for the solar system

SolarAPP+

How it Will Work During the Pilot Program

Qualifying rooftop solar projects can choose to use SolarAPP+ to bypass the City's upfront plan review and immediately apply for an electrical permit

Starting later this month, the pilot program will be open to the first 30 applicants to qualify and choose to SolarAPP+

Applying for an electrical permit with a building permit or submitting PV plans remain an option

Options

1. Apply for a building permit and electrical permit
2. Use SolarAPP+ to bypass plan review and apply for an electrical permit
3. Submit PV plans (ie: the plans for the solar system) with the application for an electrical permit

SolarAPP+

Pilot Program Process – Posted on sf.gov/dbi

1. A contractor determines if a solar array installation qualifies to use SolarAPP+
2. A licensed solar installation contractor downloads the free SolarAPP+ mobile application, registers an account and takes a brief, online training course
3. The contractor applies for a SolarAPP+ project ID
4. The contractor registers with DBI as a California licensed contractor

SolarAPP+

Proposed Process

5. The contractor applies online for an electrical permit, which is issued digitally
6. The contractor installs the solar arrays and schedules an inspection when ready
7. DBI inspects the work for compliance; the project will either be approved or issued corrections

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SolarAPP+ Eligibility Criteria

- Solar arrays only – onsite energy storage (batteries) still need to apply for a building permit and electrical permit
- Generating 10kwDC or less
- No existing solar array on site
- Installation limited to one solar module type
- Single phase 240V services
- Maximum of two DC strings in parallel

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SolarAPP+ Technical Requirements

System

New Rooftop Residential PV Systems Only

Installed by contractor with all licenses required by jurisdiction

No building integrated solar systems

Electrical

Limited to 2017 NEC

600V Max per DC System Size

Single phase only

No Aluminum Wires

Must Use 600V rated PV wire (due to outer diameter > 0.24" (6.1mm))

Must use 90 deg C rated insulated wire

Height of rooftop conduit > = 7/8"

Max 2 DC strings in parallel

Max 9 current carrying conductors in a raceway

Inverter output circuit conductors must be THWN-2, or listed NM

Terminals must be rated to 75 deg C, labeled for use with Cu wires, and accept minimum 8 AWG wire

If using microinverter, 1 module per microinverter

Permitted to install on up to or equal to 400A Service

Permitted to install on up to or equal to 225A Service Disconnect

Permitted to install on up to or equal to 225A busbars

No existing PV on site

May install only 1 module type

May install only 1 racking system type

May install up to 2 Inverters for String Inverters, up to 1 inverter type for Micro-inverters and AC modules Systems

Conduit may not be Schedule 80 PVC

Single Family Dwelling Only

Modules and Inverters must be listed on CEC

Rapid Shutdown cannot be satisfied using the method: No exposed wiring or conductive parts [690.12(B)(2)(3)]

Flat Plate PV Modules Only

No trenching allowed

All power production inverter outputs have the same point of connection

Structural

2018 IBC

PV system + hardware weight is less than or equal to 4psf

Limited to 10" above the roof for pitched (>2/12) roof

No metal roof or low-slope roof in areas with > 15psf snow load

No wood shake or wood shingle roofing

No carports or non-permanent structures

No ground mounted systems

Only one type of mounting hardware system per project

Fire

2018 IRC



THANK YOU