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Document Title:	ument Title: Energy Commission's Solar Equipment Lists			
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Energy Commission's Solar Equipment Lists

Abtin Mehrshahi Renewable Energy Division June 20th, 2018







- Background of Solar Equipment Lists
- Types of Solar Equipment Listed
- Energy Commission's Inverter List
- Smart Inverters
- Inverter Listing Requirements



Background of Solar Equipment Lists

- California Senate Bill 1 (SB1)
- Energy Commission's mandate (PRC 25782)
- SB1 Guidelines

http://www.energy.ca.gov/sb1/documents/

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Types of Solar Equipment Listed

- Photovoltaic Modules
 - 21,000+ PV Modules
 - 470 Manufacturer
- Inverters
 - 3,500+ Inverters
 - 180 Manufacturer



- Meters (640 meters, 103 manufacturers)
- Other Electric Generating Technologies
- PMRS

: http://www.gosolarcalifornia.ca.gov/use.php

Energy Commission's Inverter List

	Grid Support Utility Interactive (Smart Inverters, listed since September 2017)	Utility Interactive (Traditional Inverters listed since 2007)		
Total on the List	416	3000		
% of Total Equipment on the List	12 %	88 %		
Number of Manufacturers	28	170		



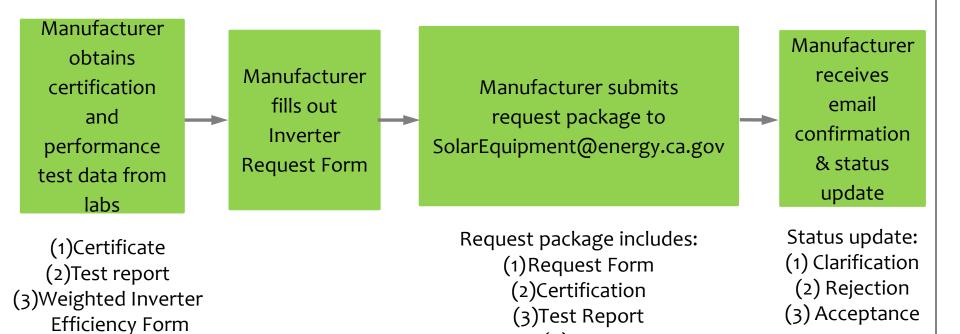
Smart Inverters

- Impact of high penetration of Distributedgeneration PV
- Smart Inverters enhance grid stability
- What is CPUC's Rule 21 tariff?
- Rule 21 Smart inverter requirements to interconnect in the California Investor Owned Utilities (IOUs) territories (PG&E, SCE, or SDG&E).



(WIEF) from NRTL

Listing Requirements Inverter Procedure:



(4)WIEF

(5)Other supporting documents



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Manufacturer Name ⊽ే	Model Number**	Description	Maximum Continuou s Output Power at Unity Power Factor 💌		Weighted Efficien(▼	UL 1741 Supplement SA Certification***	Ţ
						Certificate Date	Firmware
Enphase Energy In	\$230-60-LL-x [208V] [SI1]	230 W, 240 Vac, Grid Support Utility Interactive Microinverter, where x = 2, 3, 4, or 5 and may be followed by -US	0.22	208	97	[8/14/2017]	[v00.36.01]
Enphase Energy Inc.	\$230-60-LL-x [240V]	230 W, 240 Vac Microinverter, where x = 2, 3, 4, or 5 and may be followed by -US	0.22	240	97	Not Applicable	Not Applicable
Enphase Energy Inc.	\$230-60-LL-x [240V] [SI1]	230 W, 240 Vac, Grid Support Utility Interactive Microinverter, where x = 2, 3,	0.22	240	97	[8/14/2017]	[v00.36.01]
Enphase Energy In	IQ6-60-ACM-US [208V]	4, or 5 and may be followed by -05 230 W, 208 Vac Utility Interactive Microinverter for ACPV Module applications	0.23	208	97	Not Applicable	Not Applicable
Inphase Energy In		Interactive Microinverter for ACPV Module applications				7]	12.00]
inphase Energy Inc.	IQ6-60-ACM-US [240V]	230 W, 240 Vac Utility Interactive	0.23	240	97	Not Applicable	Not Applicable
> Inverter-Fu	ull Data (+)			•			ľ



Thank you for your time.

Questions?

Energy Commission's Solar Equipment Lists Contact information <u>SolarEquipment@energy.ca.gov</u> (916) 654-4120