



Residential Solar PV Plan Review

Course Outline

Course Description: This **12-module course**, is based on the *2017 National Electrical Code (NEC)*. It teaches the practical application of requirements specific to performing residential photovoltaic (PV) plan reviews. The course is also helpful for solar PV designers and installers to better understand the key requirements for residential solar PV systems. Each module consists of an integrated video presentation, including presentation slides, explanation, and examples. Modules are designed to be roughly 10-55 min. in length.

Course Objectives: Solar photovoltaic (PV) system installations continue to increase throughout the country. Thorough plan reviews and inspections are essential for their safe installation. This course will give many examples of different types of solar PV systems and will walk the students step by step through the plan review process for each one. Topics to be covered throughout the presentation include: requirements for site plans, line diagrams, and manufacture spec sheets. Topics also covered include: wire/breaker sizing, wire deration, cold temperature voltage, rapid shutdown of systems, disconnect locations, interconnection requirements, roof fire access clearances, equipment/wiring installation, and signage. This course will be very beneficial for plan reviewers and inspectors, but will also be helpful for solar contractors and designers to better understand what information is required on solar PV plans and what is expected during inspections. This course is based on the 2017 NEC and 2018 IBC/IRC.

Texts and Readings: The *2017 National Electrical Code* is the textbooks for this course. It is highly recommended that you purchase a paper-back copy of these codes, which are available online at www.iccsafe.org or NFPA.org.

Course Outline of Topics:

Module:	Topics:	Readings:	Quiz:	Duration:
1	Rapid Shutdown	2017 NEC	N	33 min.
2	Point of Interconnection Rules	2017 NEC	N	Part 1: 53 min. Part 2: 49 min.
3	2018 IRC Provisions	2017 NEC	N	8 min.
4	Example System #1, AP Systems Micro Inverters	2017 NEC	N	49 min.
5	Example Systems #2 and #3, Enphase IQ7 Micro Inverters	2017 NEC	N	34 min.
6	Example System #4, SMA Sunny Boy Inverter	2017 NEC	N	35 min.
7	Example System #5, SolarEdge Inverter	2017 NEC	N	37 min.
8	Example System #6, SolarEdge HDwave Inverter	2017 NEC	N	27 min.
9	Example System #7, SolarEdge StorEdge Battery Backup System	2017 NEC	N	31 min.
10	Example System #8, Tesla AC Powerwall Battery System	2017 NEC	N	41 min.



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11	Example System #9, Sonnen Battery Backup System	2017 NEC	N	20 min.
12	Example System #10, Outback Radian Battery Backup System	2017 NEC	N	21 min.
	<i>Practice Exam</i>			<i>60 min.</i>
	Total Course Hours			8.5 hours

Expectation of Participants: You can progress through this course at your own pace; however, you only have access for 120 days.

Continuing Education Credits: Completion of this course results in **.85 CEU's** being provided by ICC, as West Coast Code Consultants is a Preferred Provider.

Instructor:



Doug Smith, MCP, CBO serves as both a plans examiner and building inspector for WC3. He has been an inspector since 2005 and has more than 20 years of experience in the building safety and construction industries. He has obtained over 18 ICC certifications including Certified Master Code Professional. He specializes in the requirements of the electrical code and is especially knowledgeable on the topic of solar photovoltaic systems. Doug also currently serves as a Standards Technical Panel (STP) Member for UL 1703, UL 1741, UL 2703, UL 9540, and UL 6703.

