

Course Title

RV-11551 - 2020 NEC® Changes: Solar PV Systems and Interconnected Power Systems

Contact Hours: 2

Chapter 6 of the 2020 National Electrical Code® (NEC®) contains requirements for special equipment, and Chapter 7 contains requirements for special conditions. Several changes were made in the articles for photovoltaic systems and interconnected electric power production sources. Notable changes include changes to PV overcurrent protection, disconnecting means, and language for interconnection of electric power production sources.

Course Objectives:

- By the end of this course, you will be able to:
- List the three ways voltage is calculated for PV systems.
- Identify how current is calculated for different PV system circuits.
- Identify where overcurrent protection is required in PV system circuits.
- Recognize the rules for multiconductor cables in PV system circuits.
- Size equipment grounding conductors for DC and AC circuits in PV systems. Recognize the marking requirements for PV systems.
- Recognize the marking requirements for buildings with PV power sources.
- Identify the rules for supply side source connections.
- Identify the requirements for power control systems.
- List the basic requirements for power source disconnecting means.
- Identify circuit sizing and overcurrent protection requirements for power source circuits
- Identify basic elements of micro grids.

Content Outline

Introduction Course Overview	(4 minutes)
Article 690 Solar Photovoltaic Systems Article 690 Introduction and Scope	(8 Minutes)
Part II Circuit Requirements 690.8 Circuit Sizing and Current 690.9 Overcurrent Protection	(22 Minutes)
690.10 and 690.11 690.12 Rapid Shutdown	(11 Minutes)
Part III Disconnecting Means Part IV Wiring Methods 18 Part V Grounding and Bonding 20 Part VI Marking 22	(25 Minutes)

Article 705 Interconnected Electrical Power Production Sources (11 Minutes)

Article 705 Introduction and Scope

705.11 Supply Side Source Connections

705.12 Load Side Source Connections – Part 1 (25 Minutes)

705.12 Load Side Source Connections – Part 2

705.13 Power Control Systems (12 Minutes)

Key Sections of Article 705

Conclusion (2 Minutes)

Summary and Implications

1. List of reference and source materials/bibliography

All material necessary to complete the course is included in the course. A subject matter expert using his or her own personal knowledge writes the course. Students are not directed to additional material as a requirement for course completion, only as added information for personal interest.

2. Instructor Information

William Brooks– Resume Attached

3. Totals hours of Instruction

2 Hour(s) – this course is online and available 365/24/7 to anyone with internet access

4. Certificate of completion

sample is attached

5. Proof of compliance with interactive distance learning requirements

- a. Courses are being developed with interactivity as a key component in its development. RedVector's 'rule of thumb' is to insert an activity every 3 to 5 minutes or 500 to 800 words of text. We offer a variety of activities through the coursework to keep the user involved and requiring knowledge of the course materials being reviewed in order to move forwards.
- b. Users sign into an account with a unique User Name and Password. We request that a user agree to an affidavit stating that they are the owner of the account before proceeding to the exam. Course completion is measured by passing the exam with a minimum score of 75%.
- c. FL Contractors are notified at the beginning of the course that they are required to spend 50 minutes per credit hour in the course in order to receive an accreditation certificate. The LMS

will not allow a certificate to be issued or reflect course completion until the time requirement is met by the user.

- d. By one click of the button on each screen of the coursework, the user is given the option to obtain information in several ways. We have a FAQ page, direct email request to Client Support or they may call through a Toll Free number. Our Client Support Team is available from 8 am to 6 pm, Monday thru Friday. If there is a general question, RedVector consults with several Subject Matter Experts that respond to questions in a timely manner. If the question is more specific requiring a direct response from the course author, communication is made with the author to provide the user a response.
- e. There is a statement required to be agreed upon by the User confirming their identity before and after taking the test.
- f. Each account is established with a unique user name and password in order to access. If a user is taking a longer than normal time to review a section, they will receive a pop-up and have 90 seconds to respond or their session will time out requiring the user to sign into the site again if they wish to continue the coursework.