

## **Course Title**

**RV-11548 - 2020 NEC® Changes: Backup Power, Energy Storage, and Limited-Energy**

**Contact Hours:** 1

This course covers the changes in Articles 700, 702, 706, 725, 770 and Chapter 8 of the National Electrical Code®. Article 700 contains the requirements for emergency systems. Article 701 covers optional standby systems. Article 706 covers energy storage systems. Article 725 covers Class 1, 2, and 3 remote-control, signaling, and power-limited circuits. Chapter 8 covers communications systems. Notable changes include clarification of the requirements for transfer equipment, reduced requirements for unit equipment used for emergency lighting, several new requirements for energy storage systems, and the consolidation of several rules in Chapter 8.

## **Course Objectives:**

By the end of this course, you will be able to:

- Recall the rules for sizing and emergency generator.
- Identify the type of transfer switches that are not allowed for emergency systems.
- Recall the fire rating for a listed fire resistive cable system used in an emergency system.
- List the requirements of a DC micro grid if it's used as a power source.
- List the new requirements for transfer equipment.
- Identify how and whom is to install and maintain energy storage systems.
- Define cable bundle in Article 725.
- Recall the requirements for determining the ampacity of class two and class three cables and Recognize the global changes that were made in chapter eight for communication circuits.

## **Content Outline**

<b>Introduction</b> Course Overview	<b>(2 minutes)</b>
<b>Article 700</b> Emergency Systems	<b>(17 minutes)</b>
<b>Article 702</b> Optional Standby Systems	<b>(5 minutes)</b>
<b>Article 706</b> Energy Storage Systems	<b>(8 minutes)</b>
<b>Article 725</b> Class One, Class Two and Class Three Remote Control Signaling and Power Limited Circuits	<b>(17 minutes)</b>
<b>Article 770</b> Optical Fiber Cables	<b>(4 minutes)</b>

**Chapter 8** (3 minutes)  
Communication Systems

**Conclusion** (4 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**

Ryan Jackson – Resume Attached

**3. Totals hours of Instruction**

1 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.