



## **Battery Maintenance Training – January 16, 2018 – 10:00am to 3:00pm**

Holiday Inn Express – 9933 Mayland Drive – Richmond, VA 23233 – 804-934-9300

Free Admission – Lunch will be provided

### **What is, and Why do we need Battery Management**

This introduction to the training course will outline the justification for establishing a battery maintenance/management program. It will explain why standby batteries should not be considered as consumables, but an asset that must be maintained in order to retain its value.

### **IEEE Recommended Practices and NERC requirements**

First, we will provide an introduction to the IEEE recommended maintenance practices that have been established by the battery industry as the minimum required to ensure battery reliability. It will also discuss the mandatory battery maintenance requirements for utilities that have been defined by NERC in PRC-005 and their relationship to the IEEE documents.

### **Why do we measure and record these specific values?**

All battery maintenance/management programs require that specific battery parameters are measured and recorded. Each of these parameters will be defined and their relevance to battery reliability explained.

### **Tools and Test Equipment**

Now we will introduce the tools and test equipment required to carry out all the measurements and inspections specified in the IEEE recommended practices, and the NERC requirements.

### **Remote Monitoring**

Both the IEEE recommended practices and the NERC requirement are based on calendar based inspections. Today that concept of preventative maintenance is being replaced with predictive maintenance where those parameters are now monitored on a continuous basis, and human intervention is only required when the analyzed data indicates a problem. The value of this from a resource management, and battery reliability perspective will be explained.

### **Understanding the Data**

Irrespective of how the data is collected it must be analyzed and acted upon. No single parameter provides a definitive answer as to the battery's condition. A detailed explanation on how to use the changing relationship between parameters to more closely identify failing units will be provided.

### **Discharge Testing**

Although analyzing the data will identify failing cells or units, the only test of a battery's capacity is to carry out a discharge test. How the test is conducted, and the results are analyzed will depend on what the user is trying to establish. An explanation of the different set up parameters for each test as defined in the IEEE documents and how the data should be interpreted will be covered.

### **Safety**

All work carried out on battery systems will have both chemical and electrical hazards associated with it, and is subject to specific OSHA requirements with respect training and Personal Protective Equipment (PPE). A brief overview of both the risks and the requirements will be covered.

### **Registration**

Enrollment is limited to 25 individuals, on a first-come-first-served basis. Initially, there will be a limit of two attendees per company in order to broaden the participation base.

Please confirm your plans to attend by submitting the attached RSVP to Kathy Enos via email at [kenos@rwchapman.com](mailto:kenos@rwchapman.com) or fax at 704-523-4708. Kathy can also be contacted at 704-602-8225 should you have any questions.

**RSVP FORM**  
**DC Technology – Eagle Eye Battery Maintenance Training**  
**January 16, 2018 – Holiday Inn Express – Richmond, VA**

NAME

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COMPANY

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MAILING ADDRESS

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CITY, ST, ZIP

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TELEPHONE

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EMAIL

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DIETARY RESTRICTIONS

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SEND COMPLETED FORM TO KATHY ENOS:

FAX: 704-523-4708

EMAIL: [kenos@rwchapman.com](mailto:kenos@rwchapman.com)

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