

# STATIONARY BATTERY VISUAL INSPECTION & PROBLEM IDENTIFICATION SHORTCOURSE

Developed by  
Marco W. Migliaro, PE, Fellow IEEE

Copyright © 2001-2002, 2007 by Marco W. Migliaro. All rights reserved.



Digital Presentation By  
CA Rhodes

©MWM 2001 -2002, 2007

## TERMINAL OBJECTIVE

Upon completion of this training, the participant will be able to identify the types of stationary batteries (i.e., lead-acid and nickel cadmium); explain the difference between vented and valve regulated cells; describe the basic components of a vented lead-acid stationary battery cell; perform a detailed visual inspection of a stationary lead-acid battery, rack and/or cabinet; identify potential battery problems and understand the corrective action to take for each (including the urgency of the corrective action).



©MWM 2001 -2002, 2007

2

## ENABLING OBJECTIVES

The standard for each of the following objectives is the material contained in the course materials provided to the participant.

**Given the course materials the participant shall be able to:**

- **V01** Recall the definition of a CELL, a BATTERY and a STATIONARY BATTERY
- **V02** Recall the basis for the RATING of a STATIONARY BATTERY and the standard references (i.e., discharge rate, end-of-discharge voltage, temperature and electrolyte specific gravity for lead-acid cells) used in North America
- **V03** Recall the definition of a VENTED CELL and a VALVE REGULATED CELL, and describe the differences between the two types
- **V04** Identify two types of valve regulated lead-acid batteries
- **V05** Identify the basic components of an electrochemical cell, including the lead-acid cell and nickel-cadmium cell



©MWM 2001 -2002, 2007

3

## ENABLING OBJECTIVES

*(Continued)*

- **V06** Recognize the DATE CODE on a cell and how it factors into an inspection
- **V07** Identify the types of visual checks that can be made on a vented lead-acid battery
- **V08** Identify the types of visual checks that can be made on a valve regulated lead-acid battery
- **V09** Identify the types of visual checks that can be made on a vented nickel-cadmium battery
- **V10** State the color of the positive and negative plates in a fully charged lead-acid cell
- **V11** State the visual checks that would be made on the cell plates and straps



©MWM 2001 -2002, 2007

4

## ENABLING OBJECTIVES

*(Continued)*

- **V12** State the visual checks that would be made on the post-to-cover and jar-to-cover seals
- **V13** State the visual checks that would be made on the flame arrestor
- **V14** State the visual checks that would be made on the electrolyte
- **V15** State the visual checks that would be made on the cell posts and intercell connections
- **V16** State the visual checks that would be made on the sediment in the cells
- **V17** State the checks that would be made on the battery rack or cabinet

