Fuel Cell Standards

XVI. Fuel Cell Stack

XVI.c Constant Voltage Monitoring (CVM)

Overview:

Classroom and lab instruction on the operation of stack constant voltage monitoring units when used

- Reasons to monitor each cell individually in a stack
- Methodologies to monitor cell voltage
- Logic in determination of a fault and response
- Schematic representations versus actual components
- Trouble codes associated with stack voltage errors
- Poor fuel quality on cell voltages
- Liquid water effect on cell voltages
- Lack of humidification on cell voltages

Description:

The ability to read the actual voltage of each cell in real time is part of the safety layer in some OEM systems. Understanding the possible causes and symptoms can speed up diagnostics and improve stack repair/replacement decisions.

Outcome (Goal):

Students will be able to identify causes and outcomes of low performing/defective cells and cell voltage monitoring units. Isolate whether the fault is mechanical, chemical or electrical in nature

Objectives:

Students shall be able to:

1. List possible cell voltage issues and their causes
2. Identify trouble codes associated with cell voltage issues
3. Use cell voltage information and OEM service procedures to determine course of action

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Tasks:

Students will

1. Given a various stack cell voltage plot describe possible causes and troubleshooting methods
2. Given a vehicle will match the electrical schematic to actual CVM interfaces by using OEM service instructions.

To comment or offer suggestions on this standard, contact Ken Mays:

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