

## **Electric Motor Systems Workshop**

Texas Manufacturing Assistance Center  
Automation and Robotics Research Institute  
7300 Jack Newell Blvd South  
Fort Worth, Tx 76118  
Tuesday, Dec. 4, 2007  
8 am to 4 pm

**General summary:** This workshop provides an understanding of electric motor systems management. The intent is to provide facility personnel the skills to manage their motor systems in a way that reduces energy cost and increases reliability. This would include evaluation and selection of the optimum motor for each application based on process requirements and economic analysis, motor tracking inventory and maintenance actions, and developing/using guidelines or specifications for motor repair and rewind. The electric power system and management of power transmission and driven loads will be addressed as they relate to motor operation and use.

Motor systems management is a broad topic. Several areas of motor management will be addressed in the workshop including other resources that will assist in establishing and managing industrial motor systems. They include organizations, standards, guidebooks, and providers of one-on-one technical assistance where participants can extend their knowledge.

The Motor Systems Workshop will overview the MotorMaster+ software and demonstrate the basic functions and applications of the tool

### **Workshop agenda 8:00 to 4:00**

#### Overview of Motor Systems

- Motor applications and motor types
- Motor efficiency – how it is measured, classified, and affected by environment and load
- Motor starting – methods and devices

#### Motor operation

- Load type, control, and variation
- Operating environment
- Power quality
- Electronic adjustable speed drives
- Power Factor

#### Lunch Provided

#### Motor system maintenance

- Managing maintenance

<ul style="list-style-type: none"> <li>▪ Failures and their causes</li> <li>▪ Avoiding failures with proper installation, setup, and preventative maintenance</li> <li>▪ Predictive maintenance to foresee and forestall failures</li> </ul>
<b>Motor Rebuilding</b> <ul style="list-style-type: none"> <li>▪ Steps in motor repair and rewinding, including recovery from flood damage</li> <li>▪ Repair or rewind actions that can affect the energy efficiency or the motor</li> <li>▪ Guidelines to use in specifying motor repair and rebuilding</li> </ul>
<b>Guidelines and methods to evaluate repairing versus replacing motors</b>
<b>Overview of MotorMaster+ features and functions</b>

**Course Objectives:** At the completion of the workshop, participants will be able to:

- Select the optimum motor for specific industrial applications;
- Understand the basics of using MM+ to evaluate motor purchase and repair decisions and how MM+ can be used to support further motor systems management efforts
- Establish an effective motor systems maintenance plan.
- Develop guidelines for motor repair services and evaluate motor repair facilities.
- Quickly locate resources for additional technical support on motor systems.

**CEP Credits:** Attendees will be issued a certificate for 6 hours of professional development hours.

**Instructor:** Ronald G. Wroblewski, PE , is the President of Productive Energy Solutions, LLC, in Madison, Wisconsin. His consulting and training business helps industrial plants and commercial facilities increase productivity and profitability by making more effective use of their fan, pump, blower and compressor systems. Ron is a licensed Professional Engineer in Wisconsin. He is a member of the American Society of Heating, Refrigeration and Air Conditioning Engineers and serves on the Board of Directors for the Midwest Renewable Energy Association. He earned his B.S.M.E. at the University of Illinois at Urbana-Champaign and his M.S. in Mechanical Engineering at the University of New Mexico.

Ron is certified by the DOE as a qualified Motors Systems Management trainer. He has also worked with the “Motors Decision Matter” Program to author and produce the MotorSlide Calculator

**Hosts:** Texas Industries of the Future, Texas Manufacturers Assistance Center

**Sponsors:** US Department of Energy Office of Energy Efficiency and Renewable Energy  
State Energy Conservation Office of the Texas Comptroller of Public Accounts

**Location:**

Texas Manufacturing Assistance Center, Automation and Robotics Research Institute  
7300 Jack Newell Blvd South  
Fort Worth, Tx 76118

**Registration:** To register, go to the following website:

<http://guest.cvent.com/EVENTS/Info/Summary.aspx?e=a69aa238-e65f-48c5-8d60-adc308a08603>

**Cost:** \$45 until Nov. 16. \$55 after Nov. 16.