

*Duke Energy invites you to...*

## **Introduction to Energy Efficiency in Chiller Plant Systems**

July 18, 2017 - Cincinnati, OH

### **Overview**

As one of the founding members of the Ohio Center for Industrial Energy Efficiency, we have the opportunity to invite our clients to the 1-day class "Introduction to Energy Efficiency in Chiller Plant Systems" hosted by Duke Energy in Cincinnati. Participants attending the one-day workshop will learn:

- The fundamentals of chiller plant systems
- To apply a systems approach to improve energy efficiency in chiller plants
- Predictive and preventive maintenance best practices
- To identify and prioritize energy conservation measures in chiller plants

This workshop will provide fundamental information in a practical manner to chiller plant operators, utility engineers, supervisors, energy managers, consultants, etc. Hands-on exercises will provide an understanding of the issues and economic impacts associated with chiller plant operations.

The workshop uses actual operating data from existing chiller plants to demonstrate the impact of energy conservation measures. Participants will have the ability to take some of the Fault Detection and Diagnostics (FD&D) techniques and directly apply them at their facility.

The participants are expected to bring basic information of their chiller plant system to allow them to better understand and comprehend the course. Additionally, group discussions and one-on-one interactions with the instructors will be highly encouraged.

### **Instructor**

**Mr. Riyaz Papar, PE, CEM**

Mr. Papar is currently Director, Energy and Carbon Services at Hudson Technologies Company, USA. He has over 25 years of experience in Industrial Energy Systems and Best Practices. Mr. Papar is an Instructor and an International Energy Expert for the US DOE and UNIDO. He is responsible for the development and delivery of capacity building, energy

*Ohio Center for Industrial Energy Efficiency*



assessments and project implementation for industrial system optimization in the US and several countries world-wide. Mr. Papar has worked and/or provided energy consulting services in 100+ industrial plants in the US and internationally. He has also provided best practices training to over 2,000 plant personnel.

Mr. Papar has been the past Chair of ASME's Process Industries Division and ASHRAE's Technical Committees on Centrifugal Machines (TC8.2) and Cogeneration Systems (TC1.10). He is a registered and licensed professional Mechanical Engineer. His graduate-level education specialized in the area of thermal engineering (heat transfer, energy conversion, refrigeration, etc.). Mr. Papar is the author of more than 40 Technical Publications in Journals, Conference Proceedings & Trade Magazines.

## Agenda

**8:00 – 8:30 a.m. Registration and Complimentary Breakfast**

**8:30 – 12:00 p.m. Morning Session**

- The Systems Approach
- Fundamentals of Refrigeration
- Basic Chiller Components
- Types of Chillers
- Chiller Plant Efficiency Calculations

**12:00 – 1:00 p.m. Lunch**

**1:00 – 4:00 p.m. Afternoon Session**

- Predictive and Preventive Maintenance Best Practices
- Gap Analysis – Identifying Inefficiencies
- Energy Conservation Measures (ECMs)
- Conclusions

## Location

**TechSolve  
6705 Steger Drive  
Cincinnati, OH 45237**

## Registration and Additional Information

Registration is restricted to those companies that have “opted-in” to Duke Energy's Energy Efficiency Rider Program. Check with your Account Executive for registration information.