



Texas Industries of the Future And the Institute for Industrial Productivity Presents

Technology Forum: Sustaining Industrial Energy Efficiency in Process Cooling in a Potentially Water-Short Future

8:30 am-4 pm

June 19, 2013

Houston, Texas

- 7:30 Coffee and Visit with Exhibitors
- 8:30 *Goals of Forum and Case for Action*
 - Frank Roberto, Chair, Texas IOF Advisory Committee ExxonMobil Chemical Co. Kathey Ferland, Texas Industries of the Future The University of Texas at Austin

Jim Quinn, Institute for Industrial Productivity

9:10 <u>Current Situation</u> Update from LyondellBasell Matthew Michnovicz, Principal Engineer Equistar Chemicals, LP, a LyondellBasell Industries Company

9:45 Clarifying the Situation

Attendee go-round on following questions:

- What is your biggest concern and challenge with respect to the energy impacts of water availability/quality?
- How does your plant currently use water?
- What is expected to happen to your water source over time (quantity and quality)?
- How will this impact your plant cooling or plant expansion plans?
- What are you doing to manage this threat?
- Which technologies for process cooling are you evaluating?

10:45 The Big Picture on Research and Evaluating Trade-offs

Potential Game Changing Cooling Technology Development for Power Plant <u>Water Conservation</u> Electric Power Research Institute Jessica Shi, Ph.D. Technical Lead, Technology Innovation Water Conservation Program

<u>Metrics for Evaluating Alternatives in a Typical Chemical Plant</u> Johnson Controls, Inc. Tom Carter, P.E. Senior Program Manager, Heat Rejection Technology

- 11:45 Lunch Provided. Brady's Landing Buffet Visit with exhibitors and speakers
- 12:45 Process Cooling Technologies, Part 1

<u>Evaporative Cooling Systems</u> Phelps Engineering, Pete Phelps

Air-cooled Heat Exchangers

Hudson Products Corporation Robert J. (Bob) Giammaruti, VP & GM - FIN-FAN[®] Air-Cooled Heat Exchangers

<u>EVAPCO Dual Coil Cooler</u> Hunton Specialty, Ron Sheppard

1:35 Process Cooling Technologies, Part 2

Advanced Dew Point Cooling Tower Fill

Gas Technology Institute Yaroslav Chudnovsky, Ph.D. Senior R&D Staff, End-Use Industrial Solutions

Wet Surface Air Coolers

Niagara Blower Chuck Marchetta, Senior Applications Engineer

<u>Thermosyphon Cooler Hybrid System</u> Johnson Controls, Inc. Tom Carter, P.E. Senior Program Manager, Heat Rejection Technology

- 2:40 Break Out Groups: Discussion on Next Steps
- 3:40 Report Out and Closing
- 4:00 Adjourn