Texas Industrial Energy Management Forum

Energy Efficiency’s Role in Reliability –
What’s in it for us and what can we do about it?

Thursday, April 11, 2019
4 to 6 pm

Shafaii Hall and Garden
1622 Federal Rd. #30
Houston, Texas 77015

Program

3:30 - 4:00 pm  Forum Registration/Sign-In and Visit with Exhibitors

4:00 - 6:00 pm  Industrial Energy Management Forum
See program details below.

6:00 - 7:00 pm  Networking and Exhibition
(sponsored by AIChE-STS – information below)

7:00 - 9:00 pm  Optional AIChE - STS Dinner and Speaker
(non-members are welcome – information below)

Program
Since the beginning of time, man has tried to make efficient use of fire, water and wind. It continues today and is ever so important in your industrial operations that require heating, cooling and compressed air. Consistent with our forum’s theme - **Energy Efficiency’s Role in Reliability – What’s in it for us and what can we do about it?** – in this forum, our panelists will highlight how these systems can impact your operations’ reliability.

Each panelist will provide a 20-minute presentation on the forum topic followed by a panel discussion and Q&A from the audience.
Forum Moderator
Frank Roberto, ExxonMobil
Chair, Texas IOF Chemicals and Refining Advisory Committee

Presentations by Panelists
Presentation Title: **Smart Dampers Save Energy and Improve Reliability of Fired Heaters**

Ashutosh Garg
Vice President
Furnace Improvements Services Inc.

_Fired heaters are major consumers of energy in the refining and petrochemical industries. Almost 40 to 70% of the total energy consumption in a refinery or petrochemical plant is in fired heaters. While most of the plant operators are aware of the importance of controlling excess oxygen in the fired heaters, the draft control in fired heaters is often over looked. High draft in fired heaters causes tramp air and messes up the controls. Stack dampers are used for controlling draft in fired heaters. Most of the stack dampers are manually operated and owners are trying to install pneumatic operators to automate stack dampers. Our analysis indicates that current design of stack dampers is not designed for optimum control of draft fired heaters. The stack dampers are highly oversized (like control valves) and cannot control draft correctly. Our smart dampers (patent pending) overcome that problem by adjusting the damper control characteristics. The concept is very simple and just by installation of multiple actuators, we can achieve the required control of draft effectively. FIS will present a couple of cases and CFD modeling to demonstrate the smart damper functioning. Existing dampers can be easily converted into smart dampers. Proper control of draft will eliminate the tramp air from fired heaters and make the overall operation more reliable. Combustion quality should improve substantially with proper draft available at the burners. Operators will not have to struggle anymore with the stack dampers._

Presentation Title: **Increasing the Reliability of Your Compressed Air Systems**

Thomas Theising, M.S., C.E.M., C.D.S.M.
President
Sustainable Energy Systems, LLC (presenting for Petro Chemical Energy)

_This will be a two-part presentation. The author will present a seasoned methodology for improving the reliability of your compressed air systems while also increasing efficiency and instilling sustainability. The presentation will cover both the service offerings of Petro Chemical Energy in leak detection and the business practices of a large chemical manufacturer having developed a specific process for addressing reliability and redundancy of multiple energy systems. Determining and addressing the interdependency of these systems is a critical factor in avoiding unscheduled outages. Examples of having improved reliability will be presented._
Presentation Title: **Key Strategies for improving cooling tower Efficiency and Reliability**

Brad Vickers  
Director of Engineering  
International Cooling Tower

*Cooling Towers are large evaporative cooling devices that form an integral part of a plants utility system. Unfortunately, due to the relatively high mechanical and thermal reliability of cooling towers, they are largely ignored until reliability issues become significant enough that the plants efficiency is negatively impacted. This presentation will focus on key maintenance and performance strategies that cooling tower operators can implement to ensure their cooling tower’s efficiency is maintained and, in some cases, improved.*

**Question & Answer/Panel Discussion Session**


**Networking and Exhibition, 6 – 7 pm**  
A number of companies who bring value to energy management in the process industries will have tabletop exhibits set up as a focal point for the networking session. A cash bar will also be available.

**AIChE- STS Dinner Meeting with Speaker, 7 pm**  
Following the networking, you are invited to attend the STS-AIChE dinner meeting at Shafaii Hall and Garden. You must register and pay for the dinner separately at [http://sts.aiche.org/](http://sts.aiche.org/) to attend the STS Dinner Meeting.