



MARCH 2008 Calendar of Events

MARCH 12, 2008

Industrial Water, Waste & Sewage Group 8th Annual Networking Night. Union League Club, 65 W. Jackson, Chicago. 5:00-8:00 PM. Details: www.iwwsg.org

MARCH 27, 2008

CMFI Member Meeting. Colletti's Restaurant, Chicago

APRIL 3, 2008

CMFI Board of Directors Meeting. Rosewood Restaurant, Rosemont

APRIL 22-24, 2008

NASF Washington Forum. L'Enfant Plaza Hotel, Washington, DC

JUNE 16-19, 2008

SUR/FIN. Indiana Convention Center, Indianapolis, IN

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FOR RESERVATIONS FOR THE MARCH 27 CMFI MEMBER MEETING: mail in your pink card, fax (773-784-1304), or e-mail (cmfi@netzero.net) to the Institute office ASAP.
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MARCH MEMBER MEETING

March 27, 2008

Colletti's Restaurant

5707 N. Central -- Chicago, IL

6:00-9:00 PM

!! FREE !!

INDUSTRIAL ENERGY ASSESSMENTS

Mr. Robert Miller

Research Engineer, UIC Energy Resources Center

The Industrial Assessment Center (IAC) at the University of Illinois/Chicago provides no-cost energy assessments to small and medium-sized companies that may not have the time, experience or resources to conduct one themselves. The program is one of 26 university-based centers in the US and funded by the US Department of Energy. The program uses a combination of engineering faculty, staff, and students to survey plants and then provides recommendations that will reduce your energy usage.

Assessment Goals:

- *Categorize the major energy users and quantify their annual energy consumption.
- *Identify useful, reasonable and achievable opportunities.
- *Quantify the opportunities into recommendations that detail the improvements, identify the savings, determine the investment costs and the resulting paybacks.
- *Deliver a concise, comprehensive and conclusive report that explains all of the recommendations in a format that is both technical and easy to understand.

Specifically, the energy assessment will give you:

- *Several recommendations that, as a group, will pay back within your capital investment guidelines; and
- *Overall, **save you at least 15% of your total energy budget.**

{FOR EXAMPLES OF PRACTICAL APPLICATIONS OF THIS PROGRAM, SEE THE ARTICLE ON "POWER SHIFT", PAGES 2-4 OF THIS NEWSLETTER)}

TAX AMNESTY PROGRAM FOR ILLINOIS BUSINESSES

Recent legislation enacted by the Illinois General Assembly creates a tax amnesty program for employers needing to catch up on paying franchise and license taxes imposed by the State of Illinois. Under the program, employers have been granted until March 15, 2008 to pay taxes owed for only the four most recent years that are due and no penalties or interest will be charged. After March 15, if the Secretary of State determines that a business has refused to take advantage of the amnesty program that business will be liable for the last seven years of tax liability and penalties, fees and interest will be charged. In addition, that business could face criminal charges.

CMFI encourages all members who have experienced difficulty in staying up to date with lawful tax and fee assessments to take advantage of this opportunity to get current.

This amnesty program began Friday February 1 for 25,000 to 30,000 businesses that have fallen behind on state franchise taxes and licensing fees. The Illinois Secretary of State's office administers the program, which raises about \$200 million a year in revenue.

The amnesty is through March 15 for businesses that are delinquent on annual corporate filing fees and franchise taxes. Amnesty includes taxes, fees, interest and penalties, as well as immunity from civil or criminal prosecution by the Secretary of State's office. After March 15, the interest rate on delinquent payments doubles from one to two percent.

While amnesty programs have been offered on state income taxes, this is the first time amnesty has been offered for the corporate filing fees and franchise taxes. Companies incorporated in Illinois must report each year, including name, top officers, a registered agent and address, and capitalization costs, including stock issues.

For more information, contact the Illinois Secretary of State's Office at 800-252-8980.

POWER SHIFT:

HOW TO PRODUCE MORE FOR LESS

The following are excerpts from an article by Jonathan Katz, *Industry Week (IW)*, 3/1/08

Wise Alloys doesn't need motivation from federal and state regulators to reduce its energy usage. What drives the Muscle Shoals, Ala., subsidiary of \$1 billion Wise Metals Group LLC is the staggering consequences of doing nothing. For every dollar that natural gas increases per mmBTU, Wise Alloys, a producer of aluminum sheet coils for the beverage industry, pays an additional \$4 million per year in energy costs, estimates Alan Tucker, the plant's director of industrial engineers.

Wise Alloys' story rings true for most process manufacturers. The industry uses enormous amounts of energy during heating, refining and distillation processes that produce products ranging from fertilizers to beer. In fact, according to the latest statistics provided by the U.S. Environmental Protection Agency (EPA), the top five industrial energy consumers were process manufacturers. Overall manufacturing is the largest end user of energy in the United States, and the most energy-intensive industries represent the greatest opportunity to reduce operational costs, the EPA reports.

With gasoline reaching \$100 per barrel and electric and natural gas rates soaring, process manufacturers are exploring practically every avenue they can to cut energy costs -- and they're often doing it in unconventional and innovative ways. Some food and beverage manufacturers, for instance, have purchased fuel cells to supply much of their energy. Anheuser-Busch Cos. Inc. has expanded its beer-waste-to-energy program that turns wastewater into fuel for its manufacturing processes.

Others, such as Wise Alloys, are taking advantage of assessment tools provided by the Department of Energy and local universities to implement energy-

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Power Shift.....continued

savings measures. At FMC Corp. an experimental project that has been in development for the past five years could result in a more efficient way to produce hydrogen peroxide using 30% less energy.

Wise Decisions

The reality for many process manufacturers is that alternative energy can't yet provide the abundant amounts of fuel needed for their operations. Even so, Wise Alloys has found ways to efficiently manage its current energy supplies. With the help of the Department of Energy's assessment program, the University of Alabama and its own energy conservation team, the plant has achieved significant savings from several projects.

For instance, in the plant's melting division, the company installed burners that use more oxygen than gas. The result was a natural gas savings of 10% to 15%, says Bill Quesenberry, plant electrical engineer. The company paid about \$450,000 for seven new burners, which the company recovered within a year. The plant also installed a water-softening system that enhanced the operation of its boilers. The high levels of iron and salt in the regional water supply was hindering boiler operation. The addition of water softeners resulted in another 10% savings.

Wise Alloys' conservation team is exploring several other energy-efficient projects, including the implementation of variable speed drives in some of its fans to operate based on air temperature.

The plant is focused on finding as many cost-savings opportunities as possible, but Quesenberry says the company must be selective. "Unfortunately it does take capital to do this kind of thing, so if you don't have a high return, it's kind of hard to get going, but we have a list of about 20 to 30 projects," he explains.

In recent months, students from the University of Alabama's engineering program conducted a steam and air compressor survey, which

Quesenberry says will likely result in more opportunities.

In the Works

FMC Corp. is another major consumer of natural gas and other fuels that is actively exploring its energy-savings options. As a chemicals manufacturer the \$2.3 billion company is at the epicenter of the energy-costs explosion. Chemicals producers are the most energy-intensive industries in the United States, according to the EPA. Rising costs forced the company to announce in September 2007 a 0.035-cent per pound surcharge on all invoices for hydrogen peroxide through March 31, to offset rapid increases in natural gas prices.

With funding from the Department of Energy, the company has been developing, in conjunction with the Stevens Institute of Technology in Hoboken, N.J., a hydrogen peroxide production technology for more than five years that it hopes will save approximately 5 trillion BTU per year of steam and 3 trillion BTU annually of electric energy, says Emmanuel Dada, a principal investigator and research fellow at FMC. The new process would be carried out by a microchannel reactor system located at a smaller on-site customer facility built by FMC.

Conventional production methods involve energy-intensive distillation stages to make highly concentrated hydrogen peroxide solutions because it's not cost-effective to make and transport the product at weaker levels. The hydrogen peroxide is then transported to customer sites where it's diluted into lower concentrations for commercial use.

Through a complex process the microchannel reactor is able to produce hydrogen peroxide at ready-to-use lower concentrations at the customer's site, which also reduces transportation costs. The major hurdle at this point for FMC is determining how to fund the first trial plant, Dada says.

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cmfi

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How Much Energy Is Your Industry Using?

The top five industrial consumers of energy in 2002 were in the process industries, according to a March 2007 study by the Environmental Protection Agency. The data represent annual fuel-related energy inputs. Energy intensity is measured either by energy consumption per volume of production (physical energy intensity), or energy consumption per dollar value of output (economic energy intensity).

Sector	Energy Consumption (trillion BTU)	Energy Consumption per Dollar Value of Shipments (thousand BTU)
Chemical Manufacturing	3,769	8.5
Petroleum Refining	3,086	16.1
Pulp and Paper (within forest products)	2,361	15.2
Iron and Steel	1,455	27.8
Food Manufacturing	1,116	2.6
Transportation Equipment	424	0.7
Cement	409	56.0
Fabricated Metal Products	387	1.7
Wood Products (within forest products)	375	4.2
Alumina and Aluminum	351	12.2
Metal Casting	157	5.6