

The **NATIONWIDE BOILER**

# Steamlines

Vol. 32 No. 1

PUBLISHED BY NATIONWIDE BOILER INC., FREMONT, CA

SPRING 2013

## AMMONIA-FREE CATASTAK™ SCR SYSTEM FOR WATERTUBE BOILERS DEBUT AT NRG ENERGY

After over two years of extensive research and developmental testing of an ammonia-free selective catalytic reduction (SCR) system for fire-tube boilers, the Nationwide Boiler Ammonia-Free CataStak™ SCR system for watertube boilers has officially been brought online.

NRG Energy Center San Francisco, a major district heating plant that provides steam used for space heating, domestic hot water, air conditioning and industrial processes, services over 170 customer buildings. The company contacted Nationwide Boiler to help comply with the Bay Area Air Quality Management District's (BAAQMD) Reg. 9 Rule 7 NOx emission requirement of 9 ppm for two (2) 55,000 lb/hr (71.4 MMbtu/hr) natural gas fired boilers.

Having done business with NRG's San Francisco facility in the past, Nationwide Boiler was uniquely qualified for the job and was aware of the challenges that the project entailed: busy, central downtown location, equipment space limitations, and reliable ultra low NOx performance. Nationwide Boiler proposed the installation of a single Ammonia-Free CataStak™ SCR system that utilized Combustion Components Associates (CCA) patented TRIM-NOX® LT urea injection system. The SCR system used a common and readily available 32% urea solution called DEF (diesel exhaust fluid), providing NRG with confident SCR performance without the use of ammonia. To meet the constraints of the tight boiler room configuration, Nationwide Boiler also

designed and supplied a rail hoisting system which helped expedite the entire installation process and allowed for easy boiler equipment installation without the removal of existing equipment nor a need for plant reconfigurations.

Overall, the Ammonia-Free CataStak™ SCR system easily reduced NOx emissions from 30 ppm for the watertube boilers and was tested at 1 ppm NOx throughout the firing range. The system has operated dependably without any performance issues or concerns about meeting future NOx emission limits, providing NRG Energy with hassle-free operations and confident results.

Working closely with CCA engineers and performing actual fire testing on package boilers, Nationwide Boiler proved that ammonia-free SCR technology can be supplied for both package firetube and watertube boilers. This breakthrough technology enables Nationwide to provide a cost effective SCR system to achieve greater than 95% NOx reductions at a very low capital and operating cost. Additionally, boiler owners and operators adverse to ammonia can economically obtain the superior performance of SCR technology and not be limited to confined operating and energy intensive performance of 9 ppm burners.

To date, the Ammonia-Free CataStak™ SCR system has been



Two (2) 55,000 lb/hr watertube boilers with a single Ammonia-Free CataStak™ SCR system.

working for customers in varying industries. Several additional projects are planned for a chemical plant in New Jersey and a possible cogeneration plant located in California. The Ammonia-Free CataStak™ SCR system exemplifies how Nationwide Boiler is meeting the demands of many industries by providing innovative, state-of-the-art technology that will shape the future of air emission control solutions. Overall, air emission regulations will continue to evolve and plant operators will look for technology that will provide years of hassle-free, energy efficient compliance assurance and peace of mind.

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## AGING WELL



Jeff Shallcross, President

Our industry's demographic is mainly comprised of men and women aged 40-65 years, with many working well beyond their golden years. The next generation of boiler leaders will be relied upon to follow in our footsteps to ensure the sustainability and health of the industry. To do this successfully, it is important for all of us to remain as healthy as possible and to do what we can to maintain our longevity and well being.

I recently came across a study that examined which healthy behaviors (involving never smoking, moderate alcohol consumption, physical activity and eating fruits and vegetables daily) in mid-life predicted successful aging. The study defined successful aging as good cognitive, physical, respiratory and cardiovascular function, in addition to the absence of disability, mental health problems and chronic disease (coronary artery disease, stroke, cancer and diabetes).

The study involved a cohort of 5,100 men and women aged 42-63 years and the results indicated that compared with participants who engaged in no healthy behaviors those who engaged in two or more healthy behaviors had greater odds of successful aging and survival. It also concluded that the benefits of healthy behaviors appeared to increase with respect to the number of

healthy behaviors. As the number of healthy behaviors increased, so did the odds of absence of disability, good lung, cognitive and physical function and mental health.

The study compared participants who did not engage in healthy behaviors to those who engaged in all four healthy behaviors. Those with healthy behaviors had 3.3 times greater odds of successful aging. What I found as one of the more interesting outcomes was that moderate alcohol consumption was associated with greater odds of successful aging as compared to no or heavy alcohol consumption. This is assuring news for those of us who enjoy a glass of wine with dinner every night!

Overall, I know that to many of you this information is old news, however the importance of the study demonstrates that combined healthy behaviors have a major impact on aging successfully.

I ask that all of you focus on mastering the obvious and make a commitment to incorporate health behaviors into your lifestyle. Not only will your body and mind thank you down the road, but our industry depends on it.

### UPCOMING EVENT SCHEDULE

May 8-9, 2013 – 33rd Annual Charity Golf Tournament, Pebble Beach, CA, Benefitting the ABMA Scholarship Fund

June 2-4, 2013 – IDEA Annual Conference & Trade Show, Miami, FL

June 10-13, 2013 – International Fuel Ethanol Workshop, St. Louis, MS

June 25-26, 2013 – Shut-downs Turnarounds Super Conference, Houston, TX

### INFORMATION LINE

## NEW SERVICES MANAGER ANNOUNCED

Nationwide Boiler's maintenance and repair shop team has a lot to be proud of. Not only have they helped contribute to the company's record achievement of 3,000 days without a lost time accident, but they also contribute to the company's continued commitment of providing the highest quality equipment and support services in the industry for the on time delivery of boilers throughout the world.

The staff of just over twenty people have continually relied on the seasoned shop and service leadership team to help problem solve and provide creative solutions which can only be gained through experience and a high degree of boiler acumen.

Nationwide Boiler recently reorganized the

shop organization to include both shop and field service operations under one manager, Michael Rosmando. Having served as Nationwide Boiler's Service Manager for nearly ten years, Michael has been promoted to the position of Services Manager, now overseeing the entire shop organization as well as the field service team. In addition, Dave Lewand has been promoted to Shop Superintendent Assistant for Woody Lohse (who plans to retire next year). Other changes include Frank Medina (Shop Project Supervisor), Mike Piasecki (Lead Fleet Mechanic), and Alfredo Santiago (Lead Test Technician).

Congratulation to everyone for your hard work, teamwork and real customer service.

## NEW BOILERS ADDED TO RENTAL FLEET & BOILER STOCK INVENTORY

One of the most critical responsibilities of any boiler rental supply company is to have the right equipment at the right time. In order to do that, it is important to continually stock a variety of low and high capacity rental boilers that are both saturated and superheat capable. In addition, stocking new and reconditioned boilers that are available for immediate delivery is not only an added convenience for plant owners who need equipment right away, but it can also minimize loss production time and costs that can potentially save thousands, if not hundreds of thousands of dollars per day in some instances.

Nationwide Boiler welcomes five new boilers to our growing list of rental and stock inventory. First, two new 70,000 lb/hr low NOx trailer-mounted Nebraska package watertube boilers have been added to our rental fleet. These boilers fire gas or #2 oil and will serve as boilers for users requiring high steam capacity at a design pressure of 400 psig. Another new boiler straight from the production floor is an 82,500 lb/hr, 350 psig design low NOx trailer-mounted package watertube boiler capable of firing gas and #2 oil. This boiler was designed and engineered to the highest quality standards and is available for immediate delivery. Next on the list is a new, never used 180,000 lb/hr low NOx skid-mounted Rentech package watertube boiler set to burn natural gas only. An EconoStak economizer and all the necessary boiler trim and safety devices for reliable boiler performance are included with this unit. The last boiler addition is a reconditioned (built in 2001) 400 HP low NOx skid-mounted Cleaver-Brooks Model CB package fire-tube boiler, designed at 150 psig. This boiler fires natural gas only.

All boilers offered by Nationwide Boiler meet FM, NFPA 85 and IRI insurance standards and new and used boiler systems for sale are covered by Nationwide Boiler's one-year limited warranty. In addition, if NOx performance of 5 ppm or less is required, Nationwide Boiler's CataStak™ SCR systems are available as an add-on for all of our rental or new/reconditioned boiler sales.

If you are interested in obtaining more information about any of the boilers listed above, or would like to schedule a shop visit, please contact Nationwide Boiler today at 510-490-7100.

### Boiler Rental/Inventory Additions

New 82,500 lb/hr, 350 psig design, trailer-mounted package watertube boiler

Two (2) new 70,000 lb/hr, 400 psig design, trailer-mounted package watertube boilers

New 180,000 lb/hr, 300 psig design skid-mounted package watertube boiler

Reconditioned 400 hp, 150 psig design, skid-mounted package firetube boiler



New 70,000 lb/hr trailer-mounted boiler

### RENTAL BOILER LINE

## 650 HP MOBILE BOILER ROOMS LEND A HAND AT GOOD SAMARITAN HOSPITAL

Good Samaritan Hospital, just eighteen miles south of Nationwide Boiler's headquarters in Fremont, CA is currently in the process of replacing three of the hospital's watertube boilers. Working with the local mechanical contractor, Thermal Mechanical (Santa Clara, CA), Nationwide Boiler provided two ultra low NOx 650 hp mobile boiler rooms that easily met the steam generating capacity needs of the hospital as well as the low NOx air emission requirements of the Bay Area Air Quality Management District (BAAQMD). The boilers will be on site for at least six months until the new replacement boilers are put online.

As the hospital and health care industries continue to upgrade aging equipment, Nationwide Boiler is well equipped with temporary and new boiler equipment that aids in keeping their doors open and their customers healthy.



Two (2) 650 HP ultra low NOx Mobile Boiler Rooms

# NEW 200,000 LB/HR BOILER SUPPLIED TO TEXAS OIL REFINERY



“As refineries seek to quickly increase capacity and comply with strict emission regulations, Nationwide Boiler is uniquely qualified to provide in-stock boiler solutions that incorporate the highest standards in safety, efficiency and emission reducing capabilities,” said Larry Day, Nationwide Boiler Vice President, Sales & Marketing.

“Our long-lasting relationship with Babcock & Wilcox and other OEM suppliers has enabled Nationwide Boiler to provide the highest quality boiler systems to customers located throughout the world. This project is another example of how we can meet the needs of those customers seeking immediate boiler solutions.”

Nationwide Boiler was recently awarded a contract to supply a new, in-stock, Babcock & Wilcox D type watertube package boiler to a major crude oil refinery in El Paso, Texas.

The model FM120-124 boiler is capable of producing 200,000 lb/hr of superheated steam and is designed at 750 psig / 750°F superheat. The plant currently processes approximately 128,000 bpd of crude oil and the new boiler will replace an existing unit that is expected to help increase plant capacity to 150,000 bpd.

Nationwide Boiler facilitated the expedited delivery of the new boiler system in less than six months and the boiler includes a low NOx burner, EconoStak economizer, CataStak™ SCR NOx Reduction System (using 19% aqueous ammonia and vaporizer), SIL Level 2 Burner Management System, desuperheater, stack, and FD fan.

## After Hours Success

*Congratulations to Nationwide Boiler's Chelsey Ryker and Fremont's own Irvington High School Cheer Squad. Chelsey helped coach the team to a first place finish at the California State Championships and a second place finish at the West Coast Nationals.*

**Way to Go Chelsey!**



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