

THE NATIONWIDE BOILER STEAMLINES

AUGUST 2020



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BOILERS AID VISION FOR SUSTAINABILITY

Sustainability is important in order to protect our environment and human and ecological health, while driving innovation and not compromising our way of life. This can be a challenging thing to accomplish.

As the world's largest phosphate mining and processor in the US, responsible use of water is a fundamental component of this company's global sustainability vision. Over the last 20 years, they have reduced groundwater use by more than 50% and now recycle roughly 90% of the water at their Central Florida phosphate facilities. Earlier this year, the company set out to find boiler equipment for two different locations, both to provide steam for heating process water in a closed loop water reclamation project.

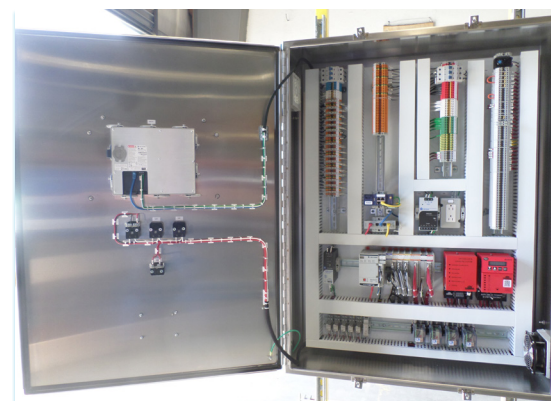
Nationwide Boiler was able to find a solution to facilitate this vision, utilizing equipment from both our in-stock, used boiler rental fleet and our new, built-to-spec boiler equipment packages. Being able to offer a tailored solution to meet the schedule for each facility was key.

The equipment from our rental fleet, which is now on site and installed,

consisted of (1) 82,500 lb/hr package watertube boiler and economizer, along with a 165,000 lb/hr mobile feedwater van. Due to a short project time line at the first facility, used rental fleet equipment was ideal with immediate availability and quick delivery to ensure on time construction and project completion.

The new equipment, a 120,000 lb/hr package watertube boiler, economizer, and skid-mounted tray-type deaerator with feedwater pumps, was chosen for the second facility due to the fact that we could guarantee delivery by the end of the year and meet the second facility's longer-term project schedule. In addition, a new Burner Management and Combustion Control System was supplied, built by our controls division Pacific Combustion Engineering. UL-certified and NEMA 4X rated, the panel included a Fireye BurnerLogix BMS and Allen-Bradley CompactLogix PLC.

Nationwide Boiler was more than happy to support this vision, as we strive to find innovative solutions to support the sustainability of our own products and the boiler industry itself.



"...INTEGRITY, DEPENDABILITY, REAL CUSTOMER SERVICE."



HOW QUICKLY THINGS CHANGE

The COVID-19 pandemic is unprecedented, and we have been in uncharted waters going on 6 months now. We can now say that things may not ever return to the old normal. Fortunately for Nationwide, as an essential business supporting other essential industries, our employees have been hard at work the entire time. Our customers are hospitals, refineries, pharmaceuticals, chemical plants, food processors, manufacturers, power plants, and of course the pulp and paper mills that make the all-important toilet paper everyone hoarded back at the beginning of the pandemic.

At Nationwide Boiler, we are continuing to implement new protocols to ensure the safety of our employees and our customers. We are maintaining semi-remote operations with the sales and engineering teams working partially remote but fully engaged. Like most others, we are using Zoom and Teams video conferencing whenever we can for our inter-company and outside communications. At our offices, we have strict social distancing and mask policies, and continue to sanitize high-traffic areas twice daily. We are able to perform all normal day-to-day tasks, we just have to be a bit more mindful to help protect ourselves and those around us.

With everything that has happened this year, I think about all the new terms, names, places, and sayings that are now engrained in our language. Like Wuhan, China (a city of 11 million that, if in the USA, would be our largest city), Dr. Fauci social distancing, ventilators, hydroxychloroquine, George Floyd, systemic racism, and cancel culture. Some of these words are now heard daily, yet a few months they were unknown to us. And who would have thought peaceful protests could have quickly turned so violent and destructive. Just the thought of defunding our police departments worries me. I do understand the removal of Confederate statues, but what's the purpose of tearing down the statues of Christopher Columbus, Frederick Douglass, and George Washington? This cancel culture mentality happening in certain areas of the country is just historically wrong.

Changes to our society and culture have taken place so rapidly in the last 5 months that I dare look into the future and try to predict what it will be like a year from now. However, this I do know: we will get through this pandemic, we will develop a vaccine, we will continue the fight to end racism, and just by loving our neighbors we can make this country a better place.

Rent-to-Own Success

Last month Nationwide Boiler closed on our largest project to date, including the sale of three 200,000 lb/hr package watertube boilers with economizers, a deaerator tank, and a plant master workstation. This equipment had been on rent at Saudi Aramco in Jizan and operating successfully for over one year. A great job to all involved!

Welcoming John Clarkson

Please join us in welcoming John Clarkson to the Nationwide Boiler sales team. With 46 years in the industry, John has established a reputation as a source of trusted knowledge and experience. Previously a co-owner of Southern California Boiler, John will be covering technical sales for our clients in the Southern California Region.



For more details on John's background and new position at NBI, check out our [press release](#).

Superior Million Dollar Club

Nationwide Boiler was presented with Superior Boiler's "Million Dollar Club" Award for the 2020 Fiscal Year, and our second year in a row. This award is given to companies in Superior Boiler's Representative Network who ship over \$1M during the fiscal year of sales.

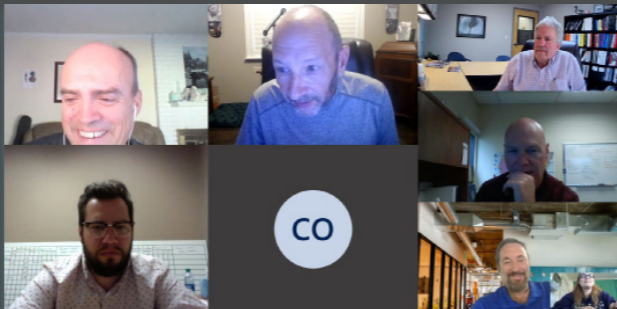


Congrats to our sales teams at both Nationwide Boiler and Pacific Combustion Engineering for their hard work in providing Superior solutions to our customers!

NBI Burner School

Nationwide's very own Brett Barnes is currently hosting an 8-week burner school to provide continued education for employees (and a refresher for our more seasoned personnel). The classes are being held virtually on a weekly basis and include employees from our sales, engineering, shop and office teams.

Brett has nearly thirty years of burner industry experience and came up with this idea to share the wealth of knowledge and experience that he has acquired. As he put it, "In the world of burners, there is always an opportunity to expand your knowledge!"



A NEW WAY OF CELEBRATING AMID PANDEMIC POLICIES

Nationwide Boiler hosts a variety of internal events every year to help boost internal relations and nurture company morale. The current state of the pandemic has made it difficult to coordinate these events, especially with social distancing policies and constraints on large gatherings. We have had to hold off on our summer ice cream socials, postpone birthday celebrations, and we even had to cancel our 2nd annual employee bowling tournament (where many of us were hoping for redemption).



At the end of the month, there was another celebration to be had; this time for the retirement of Jaime Cortes. Oddly enough, it turned in to a pre-retirement party because sometimes, life happens and things don't go as planned. Nationwide is fortunate to be getting another few years of service out of this "right-hand man", and we all got a little chuckle from this unexpected change of plans. Needless to say, we will not have another party when the time comes for him to actually retire.

To help create a sense of normalcy in these unusual times, we set out to coordinate our first BBQ of the summer celebrating Independence Day. This involved a much more spaced out arrangement utilizing our entire patio area, a different way of serving food with face shields, masks and gloves, and of course, social distancing. We also chose to play jeopardy instead of our traditional water balloon toss, to minimize physical contact.

While it is important to follow current recommendations and guidelines to help reduce spreading of the virus, it's also necessary to find a way to create a sense of normalcy and continually work to improve company culture. And it's great to be able to reward our employees who have worked tirelessly through this pandemic to support other essential businesses that rely on steam for their process.



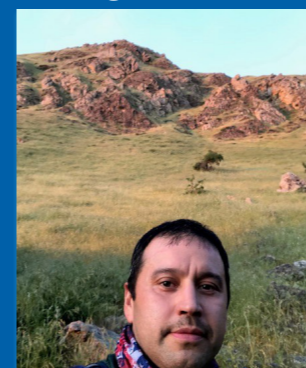
Testing our knowledge and memory on the history of the US, it was a lot of fun for all.



EMPLOYEE SPOTLIGHT: ROSENDO GARCIA

Shipping and receiving isn't just about packing boxes when it comes to boilers. In one days work we might ship items as small as a steam gauge to as large as a package watertube boiler. This requires someone with a good understanding of packaging, coordinating, and handling shipments of nearly of all sizes.

Starting his career at Nationwide Boiler



12 years ago as a painter then a boiler mechanic, Rosendo Garcia is currently Nationwide Boiler's resident material handler

and expert at all things shipping. Rosendo's parents immigrated to the US in the early 70's and he was born and raised in the Bay Area. Outside of work, Rosendo enjoys reading books and comics, watching movie collections like Marvel, DC, Rambo, and Star Wars, playing video games, baseball, and hiking.

Since the Shelter in Place began, Rosendo has been spending more time on the local hiking trails, especially Mission Peak in Fremont. Currently clocking in at two hours and twenty-three minutes, his ultimate goal is to complete the six-mile trail in two hours or less. Not to mention, he is a huge Oakland A's fan and annual sea-

son pass holder. With the baseball season shortened to sixty games, he is hoping that the A's can finally catch a break and get over their playoff loss streak.

If an emergency arises and we need to ship equipment fast, we know that we can count on Rosendo, whether on or off hours, to get the job done. We thank him for his dedication and outstanding service over the last decade-plus!



NO_x REDUCTION BY THE TONS

Developed in 1999, the CataStak™ SCR System was designed as a sustainable solution in reducing NO_x emissions from package boilers. The CataStak has demonstrated proven performance time and time again, reducing NO_x to as low as 1 ppm in some cases. So with nearly 200 temporary & permanent installations, how much NO_x have we actually reduced in the span of 20 years?

Assuming a heat input based on steam capacity, NO_x concentration at 0.06 lb/MMbtu, a 90% reduction on all units, and 24/7 operation, we were able to calculate NO_x reduced on all installations.

For systems installed in a permanent capacity, we calculated a total of 61.4M pounds per hour, 30,654 tons of NO_x reduced. For our temporary CataStak projects, we found a total of 1.4M pounds, or 700 tons of NO_x reduced. To put this in perspective, 31,350 tons of NO_x is equivalent to 28.5 billion miles saved, or 1.9 million cars taken off the road for a year!

A really neat way to look at Nationwide Boiler's hand in sustainability, and how we have helped to improve the effects of combustion on the environment with our CataStak SCR system.



VIRTUAL FACTORY ACCEPTANCE TESTS

Pacific Combustion Engineering is often involved in coordinating and performing Factory Acceptance Testing (FAT) for new critical control systems. An FAT is an essential element of the testing and acceptance of these systems and is performed at the manufacturing facility prior to shipment of equipment. The main goal of an FAT is to certify performance built for a specific application and ensure all design requirements are attained.

In this age of digital technologies and pandemic isolation requirements, we have upgraded our FAT testing device to support a more flexible option: a virtual FAT.

The new test gear consists of a 19" Human Machine Interface (HMI) that replaces toggle switches, indicating lights, potentiometers, and analog gauges. A PLC drives relays



and consists of contacts that can be configured for the voltage that is required for input simulation. Outputs are displayed via selectable 120vac & 24vdc terminals. Analog 4-20ma inputs are selectable as either loop or self-powered.

During the virtual FAT, a web portal is accessible by the client through an audio/video link to the testing, and the client can actually remotely operate the test rig HMI screen. Links are also furnished to the burner management / combustion control system PLC and HMI.

A truly unique innovation timed perfectly, making FAT testing possible when travel might not be an option. This provides an alternative to a traditional FAT, allowing businesses to continue even in heightened times like a global pandemic.



BOILER BLOWDOWN 101

Boiler blowdown is an important maintenance procedure that, if not performed properly, can lead to boiler failure. So what does the term "blowdown" actually refer to? When boiler water is converted to steam, solids or sludge is left behind. This sludge must be "blown down", which is done by partially draining the boiler. If the sludge is not removed, boiler performance is compromised.

Industrial boilers have three types of blowdown procedures: low water cutoff, bottom blowdown, and continuous blowdown. The low water cutoff procedure should take place after every shift. The water column must be kept clean to ensure the water level in the gauge glass accurately represents the water level in the boiler. Regular checks on the boiler verifies that the low water cutoff is operating correctly and cleans it out.

Intermediate, or bottom blowdown is done by manually opening a set of two valves that drains water out of the bottom of the boiler. The purpose of the bottom blowdown activity is to clean out the accumulation of solids, typically found at the bottom of a fire-

tube boiler or in the mud drum of a watertube boiler. Solids are pushed through a blowdown separator designed to take water from the boiler during blowdown and reduce it to atmospheric pressure for disposal.

Finally, continuous or surface blowdown is an automated process that helps control the water quality in the boiler; the more impurities and the more chemical treatment required, the greater the amount of blowdown required. The procedure is facilitated by a pipe entering the upper section of the boiler, typically located in the steam drum of a watertube boiler or the upper steaming portion of a firetube boiler.

Practice these procedures on a routine basis to maximize performance and minimize repairs to your boiler system.

3 STANDARD BLOWDOWN PRACTICES

- LOW WATER CUTOFF
- BOTTOM BLOWDOWN
- SURFACE BLOWDOWN

REPRESENTATIVE SPOTLIGHT: LOCKE AMI

With over 40 years of experience, Locke AMI is a mechanical contractor and distributor of package boiler systems. Although they are located in Kansas City and provide local support for Nationwide customers in Missouri and Kansas, they actually serve customers nationwide.

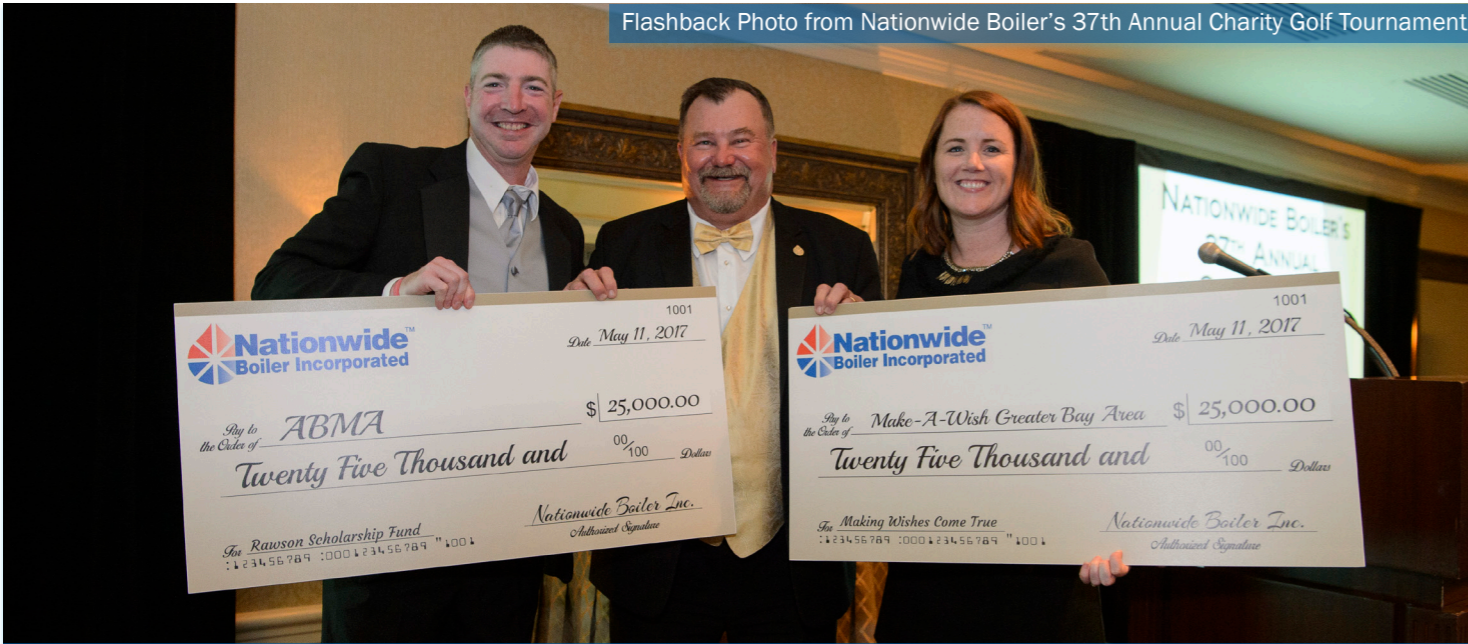
A unique company focused on long-term relationships and client satisfaction, Locke AMI embodies the strength of three companies: Locke Equipment, Associated Mechanical Inc., and Bowen. With this, they focus on supporting customers in meeting goals for planned maintenance, efficiency im-

provement, and emissions reduction and control.

Like Nationwide Boiler, Locke Equipment is a long-time representative for Babcock & Wilcox, one of the most prominent names in the package watertube boiler industry. We take pride in our relationship with Locke AMI and always look forward to our continued partnership providing customers with temporary and permanent boiler solutions.



Flashback Photo from Nationwide Boiler's 37th Annual Charity Golf Tournament



GIVING BACK: MORE IMPORTANT NOW THAN EVER

We are currently living through a time that will be written into the history books. A time where business is not guaranteed, nor is any one person's health. A time where businesses and communities are learning to adapt to a new way of operating in order to move past this pandemic and move forward in life. Now more than ever it's important to continue supporting those who are less fortunate.

Make-A-Wish® Greater Bay Area, one of the usual beneficiaries of our Annual Charity Golf Tournament, is one of the largest and most productive chapters nationwide. Last year alone, the organization granted over 350 life-changing wishes, with the average cost of a wish being \$10,000. The current pandemic has led to major fundraisers being cancelled, a large drop in donations, and the organization having to postpone over 40 wishes for the indefinite future. They have had to put everything on hold until it's safe for their wish families to travel and experience their wishes.

With the unexpected postponement of our annual event, we at Nationwide Boiler were set on finding a way to continue to support and give back to our community. As a company, we are fortunate enough to be in the position to make the financial decision of donating \$10,000 to Make-A-Wish® Greater Bay Area. We would also like to give a big thanks to some of our tournament sponsors, Alzeta, DJ Conley, and GT Wilkinson. These companies chose to allocate their initial donation to our outright contribution, bringing the final endowment to \$12,000.

Our 40th Annual Charity Golf Tournament is now scheduled for May 6-7, 2021 at the renowned Pebble Beach Golf Links. We will proceed as planned with our "Back to the Eighties" theme with all proceeds benefitting the ABMA Scholarship Fund and Make-A-Wish Greater Bay Area. We are looking forward to getting back to a new normal and hosting another successful tournament next year!

RAMPING UP OUR STOCK BOILER PROGRAM



Nationwide Boiler is known for our partnership with Babcock & Wilcox as a representative and stocking distributor. The FM-120-124 B&W D-Type Package Watertube Boiler, also known as our "World Boiler", has been sold to six of the seven continents in the world. In recent years, we have ramped up our stock boiler program to also include new Superior firetube boilers in a variety of configurations.

We started off by adding two specialized, factory integrated packages. A 47.5 and 119 hp skid-mounted package firetube boiler with pre-piped and wired duplex feedwater system and blowdown separator with after-cooler. The 47.5 hp boilers are pre-certified for use in the most stringent California air districts, while the 119 hp packages are PEER compatible for both the SCAQMD and SJVAPCD jurisdictions.

We now have additional boiler systems available in 150 hp, 200 hp, 300 hp, 350 hp, 700 hp and 800 hp. These stock units are pre-built, with burners left un-mounted to allow for greater flexibility in matching the unique fuel, emissions, and combustion needs of each customer. They are designed from 150 to 250 psig for indoor/outdoor operation, and are stored at the manufacturing facility in Hutchinson, KS for immediate shipment upon customer request.

In addition to the new boilers that we purchase specifically for our stocking program, our fleet of rental boilers range in size and in age and include brand new boilers and support equipment. We are always open to providing a solution from our rental fleet if the opportunity arises.

INVENTORY SPOTLIGHT

200,000 PPH, 750 PSIG / 750F
New Babcock & Wilcox
Package Watertube Boiler

80,000 PPH, 250 PSIG
Reconditioned Cleaver-Brooks
Package Watertube Boiler

75,000 PPH, 750 PSIG / 750F
New Babcock & Wilcox
Package Watertube Boiler

800 HP, 450 PSIG
Used Simoneau, Ultra Low NOx
High Temp Hot Water Boiler

475 HP, 150 PSIG
New Superior Package Firetube Boiler



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GLOBAL ENVIROSUMMIT

Being held in Charlotte, NC September 1 - 3, EnviroSummit is a global conference with the mission of evaluating the different approaches for "Accelerating Trends and Advancing Technology" in the environmental industry. Speakers from around the globe, including our very own Sean McMenamin, will cover topics including remediation, vapor intrusion, air quality, and wastewater.



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OSHE FALL CONFERENCE

Geared at healthcare facility professionals in the state of Oregon, the OSHE Fall Conference is scheduled for September 23 - 25 in Salishan, OR. The organization is currently looking at the possibility of making this a virtual event due to the current state of the COVID-19 pandemic.



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WSSHE FALL CONFERENCE

Geared at healthcare facility professionals in the state of Washington, the WSSHE Fall conference is scheduled for October 20 - 22 in Spokane, WA. The WSSHE is also looking at the potential to transition this conference to a virtual event.



09

WRBA CONFERENCE

Postponed from the original scheduled date in March, the Western Regional Boiler Association (WRBA) is now planning to host this annual conference on November 9 - 11 at the Coeur d'Alene Resort in Idaho. There will be 15 educational presentations and networking opportunities geared towards power boiler operators in the Western US and Canada. Nationwide Boiler and Pacific Combustion Engineering are scheduled to exhibit at this event.

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