

THE NATIONWIDE BOILER STEAMLINES

MARCH 2021



RENTAL BOILERS PROVIDE SOLUTION TO STEAM SUPPLIER SHUTDOWNS

With the recent natural disaster caused by extremely low temperatures in Texas, emergency response from the rental industry has been crucial to get plants back online. Nationwide Boiler has nearly 55 years of experience responding to emergency needs, and there is no doubt that we are able and ready to dispatch equipment in a moments notice. What may come as a surprise to some is that unplanned and emergency rental needs make up a smaller portion of our business than planned outages for maintenance, repairs, or the replacement / upgrade of facility equipment.

It is a common occurrence for companies to source steam from a neighboring facility, and some planned outages aren't even planned by the end-user but by their steam supplier next door. For example, we are currently renting a temporary steam plant providing roughly 150,000 lb/hr of superheated steam to a chemicals manufacturer in the Gulf Coast. This temporary steam plant will be utilized for process steam for the duration of their supplier's outage. Ex-

pected to last more than three months, the outage was planned well in advance, allowing time for our customer to make preparations for the rental equipment.

For this project, Nationwide Boiler supplied two (2) 75,000 lb/hr mobile trailer-mounted watertube boilers each with a stack economizer and gas pressure regulator, along with a high pressure, skid-mounted deaerator. These boilers are built to supply superheated steam at a temperature of 750F, and because the application called for reduced steam temperatures, we also supplied two (2) desuperheater stations each with a control valve. All equipment is now online and supplying temporary steam to the facility.

A rental as large as this one had a lot of moving parts involved, so it was necessary to plan ahead. While not every project has the luxury of time, choosing a supplier with the right equipment and experience will make the process that much easier.

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

NBI NEWS BRIEFS



REMOTE WORK: IS IT FOR EVERY- ONE, AND IS IT THE FUTURE?

Since the pandemic forced many companies (including NBI) to move to a temporary remote work model, some corporations like Google, Dropbox, Facebook, and Salesforce are going all in with remote work as a permanent way of business. These companies find employee's enjoying a greater quality of life with less commute time and savings on car wear and tear, gasoline, bridge tolls, etc. More time with family is also a driving force behind this trend. Recent technology advances have played a big role in aiding this transformation with high-speed home internet as well as the use of video services like Zoom, Teams, and Ring Central for meetings and the face-to-face interactions that we need for better communication.

At the ABMA Annual meeting in January, I engaged Kirk Young from JobMatchAssessment to provide a presentation on Successfully Managing Remote Workers. While we have had a handful of remote employees in years past, this topic was especially timely with many converting from the traditional in-office schedule to working from home this past year. We learned about the key traits that impact engagement for remote employees, as well as strategies to help determine which arrangement is best for each individual. It came down to three behavioral traits: successful remote workers tend to be more focused, more independent, and often less sociable. In addition, the ideal candidate for working remotely is competent and experienced; less experienced employees will benefit from the extra support available in-office.

While there are pros and cons to each work environment, remote work is not for everyone. Some employees will excel while working remote, and others will perform better while present in the office space. It is the responsibility of management to analyze performance and determine which model is best for each employee under their direction. In some cases, a hybrid of in-office and remote work may be the best way to go to satisfy both the employee's and the employer's goals and desires.

So, while I do not think 100% remote work is our permanent future, the traditional Monday to Friday 40-hour office schedule may not be, either. A hybrid arrangement, for personnel and positions that are a fit, will maximize quality of life, the social aspects of being part of a team, and the development of camaraderie.

There is no doubt that this experience has changed our views on the traditional way of doing business for the future, and it will be interesting to see what other companies choose to do in a post-pandemic world.

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Nationwide Employee Updates

We'd like to wish Engineer/Drafter Jim D'Antonio a Happy 60th birthday & congrats on the recent birth of his newest grandchild, Lauryn Elizabeth Layton.

Another congratulations to both Sandy Nevels and Gaby Cuevas on their recent accomplishments here at Nationwide! Sandy has been promoted to Shop Operations Supervisor, and Gaby has converted from contract to permanent, full-time employee.



Finally, we'd like to congratulate Kathy Averitt on her recent retirement after more than 18 years of dedication to Pacific Combustion Engineering and Nationwide Boiler. We thank you and appreciate your hard work, and wish you all the best in your future endeavors!

W.C. Rouse Becomes Newest NBI Rep

Please join us in welcoming W.C. Rouse & Son as the newest addition to Nationwide Boiler's Network of Representatives. Covering the states of North & South Carolina, W.C. Rouse has extensive experience providing boiler room service and solutions to customers throughout the Carolinas.

Check out our [press release](#) for all the details.



CataStak SCR Successful Installation

Nationwide Boiler recently completed a successful CataStak™ SCR system installation at a refinery in the South Coast Region of California. Installed on a Hydrocracker Refractioner Reboiler, the system was installed in a vertical flow configuration and built to utilize aqueous ammonia as the reagent.

Overall, the system met the design parameters and our guarantee, reducing NOx from 35 ppm to less than 2 ppm with minimal ammonia slip. A nearly 95% reduction, the system is now within the limits of the strict emissions regulated by the SCAQMD.



Upcoming Superior Boiler Webinar

Superior Boiler is hosting their first in a series of webinars to help educate the industry on various topics around boiler room equipment. This first webinar is scheduled for April 8, 2021 and will cover Deaerator Piping Pitfalls and how to avoid them.

Register today.



GETTING TO KNOW OUR STORAGE & MAINTENANCE FACILITIES

Nationwide Boiler has a purpose built rental fleet featuring fire-tube and watertube boilers, mobile steam plants, and boiler auxiliary equipment. Partnering with multiple distinguished companies in our industry for the storage & maintenance of this equipment allows us to offer a quick and cost effective solution when a temporary steam need arises. Let's get to know a bit about our partners and what equipment you might find in each location.

Pacific Combustion Engineering is located in Washougal, WA, right past the Oregon border. Making up our Controls Division, we currently store a 350 hp Mobile Boiler Room at this facility and will begin storing additional mobile boiler rooms here in the near future.



ADCO Companies, Ltd. has been a partner, rep, and large storage & maintenance facility for Nationwide for more than 30 years. A boiler sales & service company, ADCO typically maintains Nationwide's trailer-mounted watertubes from 30,000 to 100,000 lb/hr saturated and superheated steam boilers. Auxiliary equipment, like economizers and skid-mounted Deaerators, are often stored there as well.

Rasmussen Mechanical is also a boiler sales & service company with 7 locations. At their Council Bluffs, IA facility, you will find Nationwide rental equipment varying from large trailer-mounted watertubes to mobile steam plants.



EMPLOYEE SPOTLIGHT: JACK VALENTINE

"With all the different applications and manufacturing processes that I have been involved with, at times I have felt like an industrial spy. I have seen the manufacture of everything from micro-chips to potato chips."

Jack Valentine is not an industrial spy, but the General Manager of our Controls Division, Pacific Combustion Engineering. Jack began his journey with Ponder Burner (now Pacific Combustion Engineering) in 1990 after selling his interest in a company that he had previously founded. At the time, Ponder Burner was a full-blown mechanical contractor running multiple unionized installation crews for burner retrofits and boiler installations.



About one year after attaining their UL Certification in 1991, Pacific Combustion Engineering (PCE) was formed. The construction side was gradually phased out, and PCE became a sales and service

organization. In 2002, they moved from their office in Portland, OR to the current location in Washougal, WA.

In his 40 years of doing business in the Pacific Northwest, Jack has provided combustion related systems for an assortment of applications including boilers, ovens, dryers, process heating, thermal oxidizers, and

more, with some of the more unique projects related to special effects.

The beginning scene of *The Hunted* was filmed next to the University of Portland on the bluffs overlooking the downtown area of the city. The towering plumes of flames seen in this scene were actually simulated by igniting multiple streams of vaporized propane with an Ely (now Aether DBS) propane vaporizer, provided by PCE. As a result of this movie, Jack provided similar equipment for other productions, including *The Alamo*.

Outside of work, Jack and his wife Teresa enjoy traveling, golfing, gardening and taking care of their acreage property. While they may not be industrial spies, their greatest joy is spending time with their 5 grandchildren, and they definitely have some fun stories to share!

CALIFORNIA EMISSION RULE UPDATES

More changes are upon us here in California, and at Nationwide Boiler we make it a priority to stay abreast of AQMD emission rulings that will affect our customer base. Navigating these rule changes can be challenging, but ignoring them can lead to costly fees. Below you will find a brief overview of changes that are being implemented for each district of focus.

South Coast AQMD

All new boilers, as well as existing boilers and process heaters that are currently under Reclaim will have to meet a 5 ppm NOx limit, if above 20MMBTU. For units between 2 and 20MMBTU, the limit will be 7 ppm NOx.

San Joaquin Valley APCD

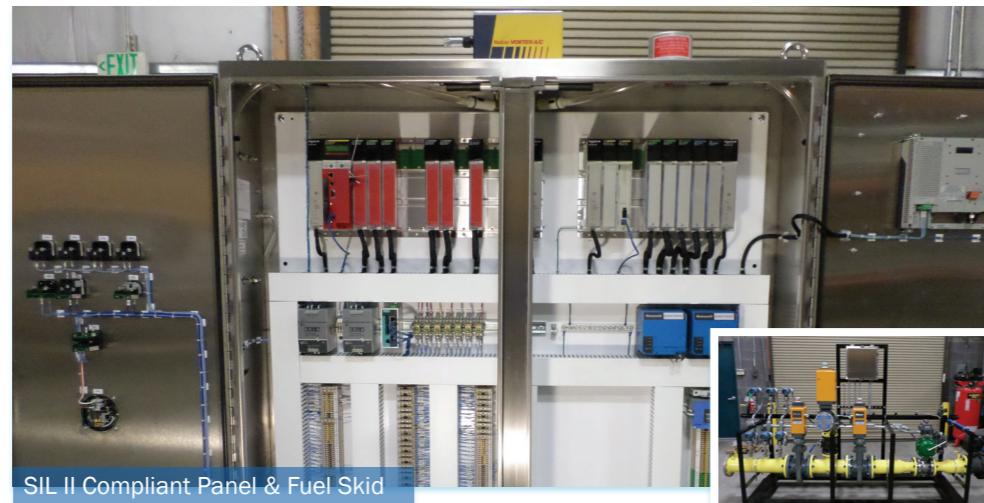
New boilers from 5 to 20MMBTU will be required to meet a 5 ppm NOx limit, and new units above 20MMBTU will be required to meet a 2½ ppm limit. For existing boilers above 20MMBTU, the district has set a deadline of May 2022 for end users to develop, prepare, and submit an Emissions Control Plan defining how each existing unit will be brought into compliance. The compliance timeline for boilers in this category will be dependent on their current emission levels.

San Diego APCD

Until now, the San Diego Air Pollution Control District has been relatively uncontrolled. Come July 1, 2021, they will be updating the rules so that all boilers between 2 and 5MMBTU will have to meet 30 ppm NOx, and boilers from 400K to 2MMBTU will be required to meet a limit of 20 ppm NOx.



Single digit NOx can be achieved in various ways depending on the specific equipment and operating parameters of each system. Options include SCR upgrades, modifications to the control system, or an ultra low NOx burner retrofit. With over 30 years of experience in ultra low NOx solutions, Nationwide Boiler can guide you through the process and help identify the most cost effective solution for each unique application.



SAFETY INTEGRITY LEVELS, SIMPLIFIED

Our Engineers at Pacific Combustion Engineering build critical control systems for critical processes, and safety in the design and manufacture of these systems is crucial. Safety Integrity Levels (SIL) are just one of many standards in place to mitigate risk of inherently dangerous systems, but what does it mean to build a control system to SIL Levels?

The IEC standards often used by plant owners & operators to quantify safety performance requirements define four (4) SIL Levels. A higher SIL Level means a greater potential for process hazards, and the requirements in turn are more rigorous in order to achieve the required lower likelihood of dangerous failure.

Essentially, the SIL Level is a measure of the system performance in terms of "Probability of Failure on Demand".

To simplify, think of it as the degree of likelihood that the system will work when and how it is supposed to work.

The IEC standards mentioned above outline Risk Reduction Factors for each SIL level, which are as follows:

SIL I: 100 to 10

SIL II: 1,000 to 100

SIL III: 10,000 to 1,000

SIL IV: 100,000 to 10,000

The HAZOP team for each end-user will determine the necessary SIL Level based on their evaluation of each risk scenario. If a risk scenario is deemed intolerable by the decision maker, a separate Safety Instrumented System (SIS) will be implemented to further reduce the risk. If the HAZOP team determines a risk reduction factor of 100, then a SIL II level of performance would be specified.

The SIS is independent of the control system, and designed to take a process to a safe state when predetermined conditions are not met. This might include an emergency shutdown, safety interlock, or safety shutdown system with functions such as logic solvers, sensors, solenoids, and final control elements. A process may require multiple SIS Systems that may or may not have the same SIL Level.

The process of determining the necessary SIL Level, as well as what is required to meet each SIL Level, can be daunting. But safety is essential regardless of the process and environment, and reducing risk is the driving force for the many standards that are in place today. This simple explanation can lead to many questions, all of which our experts at Pacific Combustion Engineering can answer.



CRITICAL COMPONENTS: THE SAFETY VALVE

Safety valves are one of the most important safety devices on a steam system, providing a measure of security for plant operators and equipment. All boilers are required by ASME code to have at least one safety valve, dependent on the maximum flow capacity (MFC) of the boiler. The main function of a safety valve is to relieve pressure.

On a boiler system, safety valves are located on the boiler steam drum and will automatically open when the pressure of the inlet side of the valve becomes higher than that of the set pressure. The total capacity of the safety valve at the set point must exceed the steam control valve's MFC if the steam valve were to fail open. In most cases, two safety valves per boiler are required, but a third may be needed if they do not exceed the MFC.

A safety valve is usually referred to as the last line of safety defense. Without safety valves, the boiler can exceed its maximum allowable working pressure (MAWP) and not only damage equipment, but also seriously injure plant operators that are close by. Many

variables can cause a safety valve on a boiler to lift, such as a compressed air or electrical power failure to control instrumentation, or an imbalance of feedwater rate caused by an inadvertently shut or open isolation valve.

Once a safety valve has lifted, it is important to do a complete boiler inspection and confirm that there are no other boiler servicing issues. A safety valve should only do its job once; safety valves should not lift continuously. Lastly, it is important to have the safety valves fully repaired, cleaned and recertified with a National Board valve repair (VR) stamp as required by local code or jurisdiction. Safety valves are a critical component in a steam system, and must be maintained.

All of Nationwide's rental boilers include one to two safety valves depending on the size; one set at design pressure and the other set slightly higher than design. By request, we can reset the safeties to a lower pressure if the application requires it. In addition, the valves are thoroughly checked after every rental and before going out to a new customer, and they are replaced and re-certified as needed.

NBI REP SPOTLIGHT: COMBUSTION SYSTEMS, INC.

With headquarters in Indianapolis, IN, Combustion Systems, Inc. (CSI) is the exclusive Nationwide Boiler representative covering the territories of Indiana, Illinois, and most of Wisconsin.



CSI is a solutions based provider offering tailored services & solutions to each of their customer's unique needs. As a true solutions provider, CSI makes recommendations to their clients for new equipment or upgrades to existing equipment based on a full analysis and clear understanding of client goals, commitments, and obligations. CSI also offers turn-key boiler design & installation, modeling, boiler room surveys, real time

efficiency monitoring, controls and service.

In addition to representing Nationwide with exclusive access to our fleet of mobile rental units and stock boilers for sale, CSI represents some of the most well known brands in our industry. This includes Superior Boiler and E-Tech Heat Recovery Systems, two manufacturers also represented by Nationwide Boiler.

With a long history of providing quality products and service to institutions and industry in the East North Central states, CSI is a go-to supplier in the region and a great company to partner with.



ANNUAL CHARITY GOLF TOURNAMENT WILL PROCEED

After having to postpone our 40th Annual Charity Golf Tournament last year, we are fortunate to be moving ahead with the event this year, scheduled for May 5 - 6, 2021. We are eager get out there and hit some balls while enjoying the scenic views of Pebble Beach and raising funds for two outstanding organizations.

In order to coordinate a safe event in compliance with local pandemic restrictions, we've had to modify our activities and will not have a formal banquet each night. The actual tournament and each round of golf, however, will be coordinated in a similar fashion to previous years. On Thursday evening, dinners will be scheduled in small groups at one or two restaurants on the property, followed by a virtual presentation and dessert that guests will enjoy from their hotel rooms.

Accommodations will take place at the Spanish Bay Resort, with a practice round at the Spanish Bay Golf Links. Tournament play, as tradition holds, will take place at the renowned Pebble Beach Golf Links. Funds

will be raised through sponsorships, mulligan sales, a raffle, and other activities throughout the event. In addition, we will hold our first ever online auction, which we are excited to offer to interested parties that may not be able to attend the event in person this year.

All proceeds will once again benefit two organizations near and dear to our company; the ABMA Scholarship Fund and Make-A-Wish® Greater Bay Area. The ABMA Scholarship was created by late ABMA President, Randy Rawson, to support young adults pursuing an education in boiler and related industries. Make-A-Wish Greater Bay Area grants thousands of wishes each year to youth diagnosed with life-threatening diseases.

We are looking forward to another successful event that provides monetary support to charitable organizations in a time where it is needed more than ever. *If you are interested in attending or sponsoring the tournament, please reach out to our Tournament Chair, Chelsey Ryker, at cryker@nationwideboiler.com.*

OUR NEWEST 165K PPH MOBILE FEEDWATER VAN

...FINISHED JUST IN TIME FOR IT'S FIRST RENTAL!



NEW RENTAL BOILERS HEADED TO INVENTORY

With over 100 rental boilers currently in our inventory, we still find the need to add new units to fill in the gaps, replace sold equipment, or to boost our numbers for equipment that is often in high demand. This goes not just for our rental boilers, but also for boiler auxiliary equipment like deaerators, feedwater vans, and more.

The first of a few new units headed into the rental fleet is a brand new 50,000 lb/hr high-pressure, saturated steam boiler. This package watertube will be trailer-mounted and built for customers with operating requirements between 150 and 625 psi. While we have a few high-pressure saturated steam boilers in our rental fleet, this size in particular is unique to the rental market and hard to come by.



We also have another brand new saturated steam boiler now in production, the third of this size to enter our rental fleet. This unit will also be trailer-mounted, but built to supply up to 100,000 lb/hr of saturated steam at operating pressures from 150 to 375 psi.

Finally, we are excited to be adding an additional two 1,000 HP mobile boiler rooms to the fleet. These rental systems will include a low NOx package firetube boiler, triplex deaerator, motor control panel, and blowdown separator. A water softener can be included as needed. The largest mobile boiler rooms on the market today, these units have been in high demand for us since we built the first one back in 2015.

With a fleet of rental units ranging in size, design, and operating ability, we are able to support a wide range of customer needs. We take pride in having one of the largest and most diverse rental fleets in the world, and we look forward to growing our rental fleet even further and continuing to support customers not just Nationwide, but worldwide.

STOCK BOILERS INVENTORY SPOTLIGHT

200,000 PPH, 750 PSIG / 750F

New Babcock & Wilcox, Low NOx Package Watertube Boiler

100,000 PPH, 399 PSIG

New Superior, Low NOx Package Watertube Boiler

80,000 PPH, 250 PSIG

Reconditioned Cleaver-Brooks Low NOx Package Watertube Boiler

800 HP, 250 PSIG

New Superior, Low or Ultra-Low NOx Package Firetube Boiler

475 HP, 150 PSIG

New Superior, Ultra Low NOx Package Firetube Boiler



NBI EVENTS UPDATE

Events this year are still in flux - many have now been cancelled, postponed, or converted to a virtual environment.

Be sure to follow us on social media and check our website for event announcements throughout the year.



**NBI ANNUAL
CHARITY GOLF
TOURNAMENT**

May 5 - 6, 2021
Pebble Beach, CA



**OSHE VIRTUAL
ANNUAL
CONFERENCE**

May 6, 2021
Virtual/Online Platform



**ABMA
SUMMER MEETING
(HYBRID EVENT)**

June 25 - 28, 2021
Bonita Springs, FL

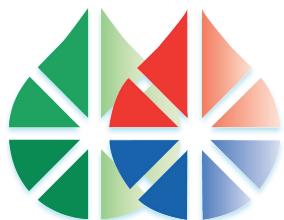


In Loving Memory



Eduardo Ortega

“When we lose someone we love, we must learn not to live without them but to live with the love they left behind.”



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STEAMLINES

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