

WARE



ALL WAYS STEAM

THE GRIME

Spring 2019 Newsletter

RAIL, AIR, WATER OR TRUCK. WARE DELIVERS

By Steve Taylor



We sit. We think. And we figure it out.

Because it's not really impossible. We just have to figure out the solution and put it together for our customer.

This is an attitude that's evidenced in some of our biggest projects.

Like when we moved a 250,000-lb/hr. boiler from Houston, Texas to a job site in Kentucky.

The boiler had to be transported on a special barge from Houston to the Gulf of Mexico, then up the Mississippi and Ohio Rivers to a public boat ramp in Kentucky, where we picked it up and drove it 6.2 miles to the job site.

The boiler was 20 feet wide and 20 feet tall. Police had to block roads. Utility companies had to lift power lines and traffic lights and move signs because the load was so huge.

Or – like when we got a call on a Friday from a customer in Nova Scotia who said something like:

"I need two boilers as fast as you can get them to me."

By road, it would have taken 3 - 5 weeks to deliver them. Not fast enough.

They wanted the boilers by Monday or Tuesday. (3 - 4 days after the call – not weeks.)

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"Impossible is nothing."

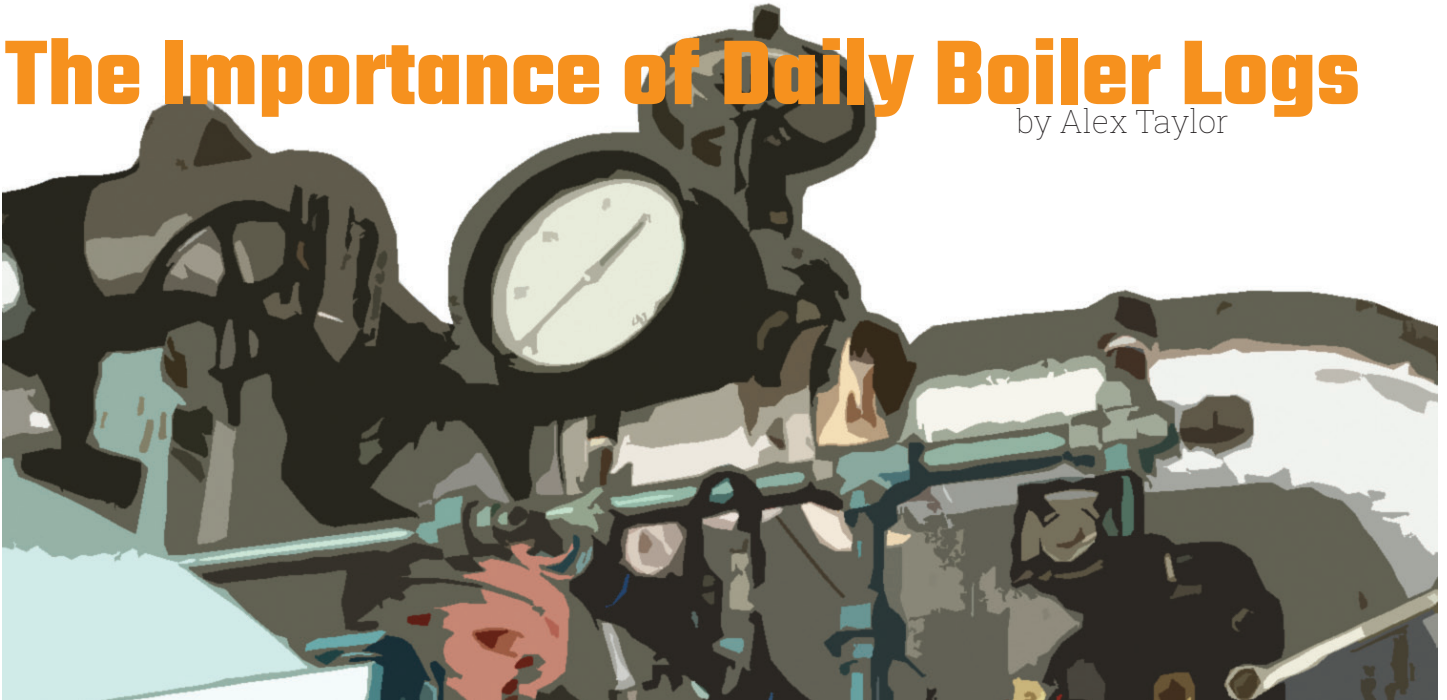
That's the slogan of sports clothing brand, Adidas.

And while WARE isn't affiliated with Adidas in any way (they do make nice stuff, though), their slogan is something we try to embody.

When we're presented with a project that sounds "impossible" at first, we don't turn away.

The Importance of Daily Boiler Logs

by Alex Taylor



There is an expression commonly cited in the business world, and though it has some variations, it basically goes, "You can't manage what you don't measure." While that may not be completely applicable to every aspect of your company's operations, it is something that definitely applies to tracking what is taking place in your boiler room. There seems to be a natural tendency for many boiler rooms to be neglected when they are producing steam or hot water over time, as there are no perceived problems when production is humming along. However, when problems eventually do arise, and the boiler goes down, one of the first questions that comes up is "how did this happen?"

Whoever is responsible for the boiler may be able to tell you how certain boiler problems occurred, but if that person is out sick, on vacation, or simply not able to provide a suitable answer, it can be difficult for a boiler professional to quickly locate the source of the problem. This is where an accurate boiler log can be extremely helpful. To those who may be less familiar with it, a boiler log is basically a maintenance checklist document used to record the daily status of the water levels, pump & steam pressures, temperatures, water treatment notes, blowdown operations, critical maintenance issues that were addressed, etc. This log also records the date, time, and technician responsible for these checks.

When multiple readings over a period of time are reviewed, it can help a knowledgeable person to form a timeline of events and reveal a good picture of the quality of boiler operation and maintenance while it was running. This information can aid a boiler professional in diagnosing whether or not a problem was sudden or gradually built-up over time, which can be used to identify the problem and recommend the necessary changes for preventing a repeat incident. Having a boiler log that is required to be filled out each day (or even each shift) also reinforces accountability, as technicians will be less likely to let daily maintenance fall to the wayside. If, for example, it is discovered that the boiler tubes are covered in scale and an acid job or tube work is required, checking the boiler log and seeing that there are missing

entries for water chemistry and blowdown operations will tell you where your problem most likely resides, and you can do a better job managing your water chemistry from that point on.

Now some will see this as a tool to just point fingers and find someone to blame for problems, but it is important to realize that the primary goals here are to analyze the root cause and improve operations to prevent down time, extend the life of the equipment, and keep people safe. Ensuring that the problem is understood and does not reoccur in the future is critical to your operations. If your production or heating process is experiencing an issue with the steam or hot water being supplied to it, reviewing the boiler log can often expose when something changed, and the cause can then be more easily tracked down and fixed. Hopefully any issues can be caught before they actually lead to problems, and by having personnel record the data every day, they should easily be able to see when a value does not look right or is drifting from where it used to be. This information can even be logged and analyzed digitally.

You can think of keeping a proper boiler log & periodically reviewing the recorded data as another means of monitoring the health of your boiler operations for preventative care. There are boiler logs for daily, weekly, monthly, semi-annual, and annual maintenance. It is recommended that these tools and maintenance priorities be incorporated into your existing maintenance program. Doing so will allow you to measure what is actually going on in your boiler room, then manage the results.



WARE ordering boiler parts is easy!

The solution?

Fly them out there.

So, we got to work.

We started around noon that Friday and worked crews straight through until the following Monday around 4PM, when we finished loading the 238,000 pounds of cargo onto the plane.

Or – like when we have to ship a D-style boiler by rail.

The center-of-gravity is shifted toward one side on these boilers. So, we have to find a way to center it on the railcar.

We do this with counterweights, by calculating where the center of gravity is and how much counterweight we'll need.

We move a lot of heavy loads by road, too.

Some of our biggest are around 187,000 pounds with tractor, trailer, and boiler moving down the highway – that's 13 axles.

As you might guess, loads that big need special permitting.

We work with trucking firms who specialize in that stuff to make sure we're aware of everything that's going on during the transport and that we're following all the laws.

For example, when we helped out in New York after Hurricane Sandy, we had to cross the George Washington Bridge with very large boilers.

The problem?

We weren't allowed to do it during the day.

So we had to be at the bridge at midnight to transport it across. But even with these little inconveniences, you have to answer questions like:

Where can we park a tractor-trailer hauling a boiler while we're waiting to go to the bridge?

And the truth is –

We could pawn these aspects of projects off to someone else.

The companies we work with are a huge help to us, but we stay involved during the whole transportation process.

Why?

We understand that our customers often have set-up crews or cranes in place to receive these huge boilers.

They're paying for those crews to be there. So we want to be able to keep them up-to-date on when the boiler will actually arrive.

Like everything else we do – our focus is on relationships.

We want to understand what our customers need, develop solutions for them, and take care of them through the whole process.

These big projects are just examples of that.



In case you were unaware of this device. This is a new standard on the Victory DB boilers. It is a secondary catch cable should the pin on the door hinge ever give way.

An incident recently happened on a boiler that we were working on and the door pin broke. This resulted in a minor injury.

We suggested a need to fix this to Victory and they quickly responded with a very affective solution.

Although it is very unlikely that this would happen to the new Victory design because of the free moving door hinge. However we would rather be safe then sorry.





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Watch Ritchie talk with industry professionals about the many different aspects of steam boilers.

Every Friday, Brent will talk about where steam and Culture intersect.

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VIDEOS ARE INFORMATIONAL AND FUN INVOLVING BOILERS, BURNERS AND MORE FROM AN INDUSTRY LEADING BOILER COMPANY.

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BOILER TRAINING

BOILER UNIVERSITY WARE

CATASTROPHES CAUSED BY HUMAN ERROR

Boiler and Pressure Vessel incidents, which can have devastating consequences, are usually the result of human error (improper installation, improper repair, low-water condition, operator error or poor maintenance).

101CLASS - \$1,200.00

Is a two-day introduction to the boiler room, covering all of the important aspects from water treatment, and boiler operations, to condensate systems. This seminar style, media-rich class offers a great first look at boilers for beginners, and a great review for experienced operators.

101 CLASS 2018

March 12-13, 2019 - Bowling Green, KY

April 16-17, 2019 - Chattanooga, TN

May 14-15, 2019 - Louisville, KY

July 9-10, 2019 - ECU, Richmond, KY

August 13-14, 2019 - Chattanooga, TN

October 8-9, 2019 - Louisville, KY

October 15-16, 2019 - Savannah, GA

201 CLASS 2019

March 5-7, 2019 - Louisville, KY

April 23-25, 2019 - Louisville, KY

August 20-22, 2019 - Louisville, KY

September 17-19, 2019 - Louisville, KY

November 12-14, 2019 - Louisville, KY

201CLASS - \$1,800.00

Is a three-day program building on the 101 foundation, but adding the full experience of our Louisville Boiler Lab, providing hands-on opportunities on many subjects with our four fully operational lab boilers. Beginners will get the full perspective of an operating system, and even seasoned operators and contractors will gain valuable insight from displays, such as our fully glass piped steam and condensate system demonstrator.

NEW FOR 2019

Visit www.wareinc.com for details

Classes are four hours long

BOILER 202 - Daily Boiler Operations

BOILER 203 - 4 Hour Steam System Basics

BOILER 204 - Safety and Limit Checks

BOILER 205 - Energy Efficiency Options

Classes are three days long

BOILER 301 - Boiler Open/Close

BOILER 302 - Principles of Combustion

BOILER 303 - Hands on Flame Safeguard and Boiler Control Wiring

BOILER 304 - Feedwater and Level Control

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THERMOMETERS
IGNITORS
MODULATING MOTORS
FEEDWATER VALVES
TEMPERATURE CONTROLS
CONTROL VALVES
RELIEF VALVES
WATER LEVEL CONTROLS

and a **WHOLE
LOT MORE**



NEW AND USED LIST

ALL EQUIPMENT LISTED IS FOR SALE OR LEASE AND SUBJECT TO AVAILABILITY

Unit	HP/PPH	Year	Manf.	Fuel	Type	PSI	Ctrl.
779	82,500	2013	Victory Energy Limpsfield	(Low NOx) G/#2	Steam	350	IRI
796	82,500	2016	Victory Energy Faber	(Low NOx) G/#2	Steam	350	IRI
797	82,500	2016	Victory Energy Faber	(Low NOx) G/#2	Steam	350	IRI
767	75,000	2011	Victory Energy	(Low NOx) G/#2	Steam/SH	750/750	IRI
747	75,000	2000	B&W	(Low NOx) G/#2	Steam/SH	750/750	IRI
791	75,000	2016	Victory Energy	(Low NOx) G/#2	Steam/SH	750/750	IRI
750	70,000	1996	Nebraska	(Low NOx) G/#2	Steam/SH	750/750	IRI
709	60,000	1979	Zurn	(Low NOx) G/#2	Steam	500	IRI
741	60,000	1979	Zurn	G/#2	Steam	550	IRI
795	40,000	1986	Cleaver Brooks	Gas	Steam	260	IRI
496	800	1990	York-Shiple	(Low NOx) G/#2	Steam	200	IRI
634	800	1972	York-Shiple	G/#2	Steam	150	IRI
SSB44	800XID	2018	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
620	800	1975	York-Shiple	G/#2	Steam	250	IRI
SSB42	600XID	2018	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
SB139	500	2001	Cleaver Brooks		Steam	150	
SB243	400	2018	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD1
SB138	350	1994	Cleaver Brooks		Steam	150	
SSB39	300XID	2016	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SSB43	250	2018	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
415	250	1980	Eclipse	#2 Oil	HT/HW	954	IRI
SB148	200	1995	Kewanee	Gas	Steam	325	IRI
SB146	200	1995	Kewanee	Gas	Steam	325	IRI

ONE HOUR QUOTE ON-LINE AT WAREINC.COM OR CALL 800-228-8861





NEW AND USED LIST continued

ALL EQUIPMENT LISTED IS FOR SALE OR LEASE AND SUBJECT TO AVAILABILITY

Unit	HP/PPH	Year	Manf.	Fuel	Type	PSI	Ctrl.
SB213	175XID	2014	York-ShIPLEy	G/#2	Steam	150	UL/CSD-1
SB220	175XID	2015	York-ShIPLEy	G/#2	Steam	150	UL/CSD-1
SB240	175XID	2017	Victory Energy	G/#2	Steam	150	UL/CSD-1
SSB20	175XID	2012	York-ShIPLEy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SWVB1	1200	2017	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
SWVB2	1500	2017	Victory Energy	(Low NOx) G/#2	Steam	250	UL/CSD-1
SSB38	150	2017	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SB245	150	2018	Victory Energy	G/#2	Steam	150	UL/CSD1
SB242	150	2017	Victory Energy	G/#2	Steam	150	UL/CSD1
769	150	1998	Precision	Electric	Steam	150	UL
SB-246	100	2019	Victory Energy	G/#2	Steam	150	UL/CSD-1
SB-239	100	2017	Victory Energy	G/#2	Steam	150	UL/CSD-1
SSB41	100	2017	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SB-241	100	2008	York-ShIPLEy	Gas	Steam	150	UL
SB-237	70	2016	Victory Energy	G/#2	Steam	150	UL/CSD-1
SB-238	70	2016	Victory Energy	G/#2	Steam	150	UL/CSD-1
SSB35	70	2016	Victory Energy	(Low NOx) G/#2	Steam	150	UL/CSD-1
SB-234	50	2016	Victory Energy	G/#2	Steam	150	UL/CSD-1
SB-227	50	2016	Victory Energy	G/#2	Steam	150	UL/CSD-1
SB244	100	2018	Victory Energy	G/#2	Steam	150	UL/CSD-1
SSB-45	50	2019	Victory Energy	G/#2	Steam	150	UL/CSD-1

EVENTS
EVENTS
EVENTS

WARE will be exhibiting at:

AEE EAST - March 19 - 21, 2019 - Boston, MA
 Brewery Expo - April 9 - 11, 2019 - Denver, CO
 IDEA 2019 - June 24 - 26, 2019 - Pittsburg, PA

ONE HOUR QUOTE ON-LINE AT WAREINC.COM OR CALL 800-228-8861



BOILER MAINTENANCE

The Last Place You Want To Cut Your Budget

By Steve Taylor

You know, you don't have to change your car's oil every 5,000 miles.

It can go longer.

You might even be able to run it up to 20,000 before you have to do anything.

But what happens when you do that year-after-year?

You're putting wear-and-tear on the engine and shortening its life.

In an effort to save money in the short-term, you'll spend more in the long-term.

That's what it's like when companies cut the budget for their boiler's maintenance.

They're trying to save money in the short-term, but we're starting to see the long-term consequences in our shop.

In the past 12 months, we've had more acid cleaning jobs (to repair scaled boilers) than we've had in the past 5 years put together.

Here's what we think is happening:

Companies run into budget issues, so they cut their boiler maintenance budget.

They stop doing periodic blowdowns, start cutting back on chemical water treatments, and stop maintaining support equipment the way they should.

For a few years, everything seems to be running smoothly.

Then, somewhere around the 3 - 5 year mark, the boiler needs a repair.

But the company can't afford to shut down production – nor can they afford to replace the damaged equipment, so they rent a boiler.

And they treat the rental boiler the same way they've been treating their own equipment, i.e. They don't maintain it.

So – in another 3 - 5 years, the rental boiler is damaged and needs a repair, which the company then has to pay for.

At this point, the company realizes why its boilers

keep failing, then increases the maintenance budget.

Then, it will take another 3 – 5 years to get maintenance back up to the level it needs to be.

But it's a flawed system.

The ultimate goal is to save money, but these boiler repairs (caused by a lack of maintenance) can cost a lot of money.

It's not impossible for them to reach the 7-figure mark.

So what's the solution?

If you're looking to cut your budget –

Don't cut your boiler maintenance budget.

Your boiler is the heart and soul of your plant.

If you don't treat it well – you'll pay for it in some form or fashion eventually, whether it's boiler repairs or the cost of being out-of-production because you don't have a working boiler.

It might even be helpful to do a cost-benefit analysis.

What's the cost of paying for boiler maintenance?

What are the costs of the boiler repairs you'll need if you don't perform maintenance?

Beyond that – what's the cost of being out-of-production because you don't have a working boiler?

We think you'll find that, while cutting boiler maintenance costs might seem to make sense in the short-term, it's really hurting the company in the long-term.

Remember:

Not changing the oil in your car might save money and time in the short-term, but in the long-term –

You're gonna tear up that engine.

Your boiler is the same way.

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Boiler Maintenance



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