Buckman™
Chemistry, connected.

SUPERFLUOUS INSTRUMENTS DISTRACT YOU FROM THEIR MAIN PURPOSE:

MONITORING LEAKS IN YOUR BOILER

YOUR CHALLENGE:
EXTRANEOUS EQUIPMENT ADDS COMPLEXITY AND POINTS OF FAILURE

With the push to run lean and get more out of aging equipment, most mills have embraced some form of leak detection automation—and the variety of systems, instruments, and sensors that come with it. Yet while these components have reduced the number of physical tasks workers need to do around the boiler, they require lots of maintenance and calibration to keep accurate. And because your already-overloaded staff is focused more on core production equipment, you may have to rely on an expensive service contract with a third party—one who doesn't know your equipment as well and who might not be available right when you need them.

If you've invested heavily in third-party equipment to automate leak detection, you may feel locked into this complexity spiral. What's more, if your system only provides one-dimensional data (e.g., acoustic signals, chemical markers, etc.)—and that data is questionable due to drift—you're more likely to miss a slow-developing problem that could lead to critical failure. Ultimately, something that was supposed to simplify your life (i.e., automation) introduces a whole new set of complexities and points of failure that can put your production goals at risk.

On average, a pulp and paper mill will experience one emergency shutdown procedure every five operating years and one explosion per every 100 operating years.[1]

1. BLRBAC data

YOUR SOLUTION:
TRADE MAINTENANCE FOR MASTERY

Extraneous instruments and sensors add complexity and points of failure that can distract you from their core purpose: monitoring leaks in your boiler.

With Buckman, you can trade maintenance for mastery with just your existing equipment.

You'll:

Adjust analytic sensitivity over time to make smarter decisions about leaks based on a combination of historical and real-time data

Go beyond surface-level observations and see more of what's happening inside

Increase awareness of leak symptoms, so operators can make fast and focused decisions

As a result, you'll

reduce the complexity your operators have to navigate through as they attempt to build strong, confident cases for whatever action should be taken.

Here's how...

DETECT LEAKS BY **MONITORING ONLY YOUR EQUIPMENT**

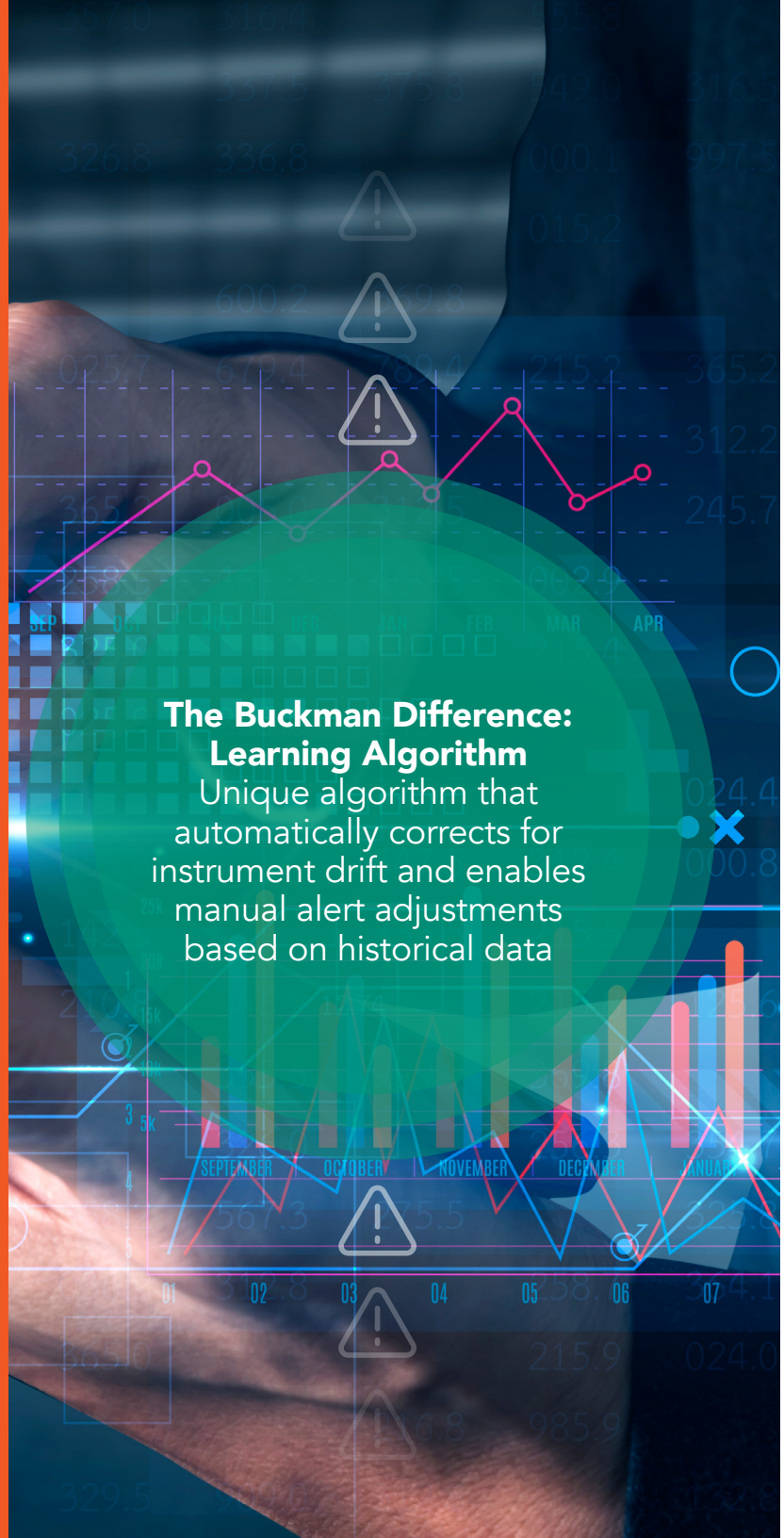
With most leak detection systems, you have to install hardware and equipment, run cables and wires, connect sample and cooling lines, etc.—some of which require a boiler to be offline. And when these assets inevitably need cleaning or calibration, you're often at the mercy of the vendor technician's availability—which can create risk for your recovery boiler operation.

With Buckman's **ease of installation, you'll detect leaks using just the equipment and instruments you already know and understand—bypassing the unnecessary implementation and maintenance headaches**. Your solution has no physical footprint; it doesn't need extra sensors, chemical feeders, or acoustic monitors to operate—just a server to run on and a connection to your DCS.

As a result, you'll avoid costly boiler downtime for installation, and your operators won't have to learn and manage extraneous equipment or chemicals.

The Buckman Difference: Ease of Installation

A solution with no physical footprint that connects directly to existing, BLRBAC-recommended instrumentation via DCS



ADJUST ANALYTIC SENSITIVITY TO **MINIMIZE FALSE ALARMS**

False alarms destroy confidence—in the data, the alerts, the decision to do an emergency shutdown procedure (ESP) or keep running, and so on. And when your system is built around instruments that need constant cleaning and calibration, you're more likely to experience drift that can compound your false alarm problem.

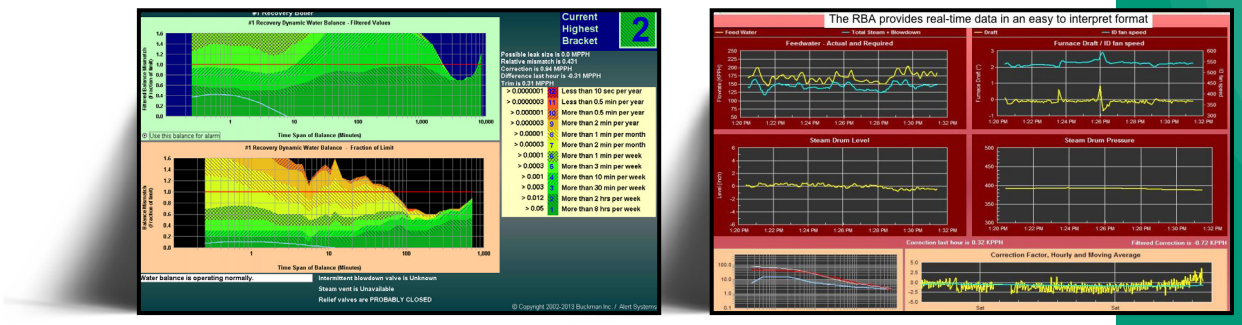
With Buckman's learning algorithm, you can adjust analytic sensitivity over time to make smarter decisions about leaks based on a combination of historical and real-time data.

What's more, your operators can view this data and adjust alert parameters to be either more or less sensitive, so you can proactively avoid those dreaded false alarms. This means your leak detection will continually get more accurate over time, which increases operator confidence and empowers them to make the right decisions when and where needed.

GO BEYOND SURFACE OBSERVATIONS AND **TAKE CONFIDENT ACTION**

Most leak detection systems rely heavily on one type of real-time data to find anomalies (e.g., acoustic signals, chemical balance, etc.). Yet while that information can be important, it's only a portion of all the elements that can identify—and predict—a leak.

With expansive boiler analysis, you'll go beyond the surface-level observations—seeing more of what's happening in the boiler, analyzing more parts of the boiler than any other system—variables like fan speeds, carbon monoxide and sulfur levels, opacity, and more. Your operators can quickly build a strong case for why they should take a given action—whether that be business as usual, a physical investigation, or an ESP. With this kind of comprehensive analysis, you'll not only increase operator confidence and awareness of connected symptoms, but also minimize employee exposure to potentially dangerous areas and high-risk situations.



The Buckman Difference: Expansive Boiler Analysis

Comprehensive, contextual analysis of more leak dynamics within the boiler, such as fan speeds, CO_2 and sulfur levels, opacity, and more

When you partner with Buckman,

you can detect leaks using the equipment and instruments you already know, adjusting analytic sensitivity to make smarter decisions, and go beyond the surface-level observations to see more of what's happening in the boiler.

You'll...

Build alignment across various levels of operator experience

Proactively increase the safety of your operations

Understand the contributing factors to every alert

Buckman's Recovery Boiler Advisor's sensitivity ranges between **0.15%** and **0.5%** of the normal feedwater flow to the boiler, depending on the availability and consistency of boiler instrumentation—no other leak detection system can notify an operator of a leak in 15 seconds.

To learn more, please visit us online.

The RBA is a support tool for use and incorporation in your comprehensive recovery boiler monitoring program. The RBA is focused on providing the operators with additional information and monitoring which allows operators to make decisions based on data, experience, and expertise. The operator, and not the RBA, must always be the final determining factor as to what type of intervention is required.

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