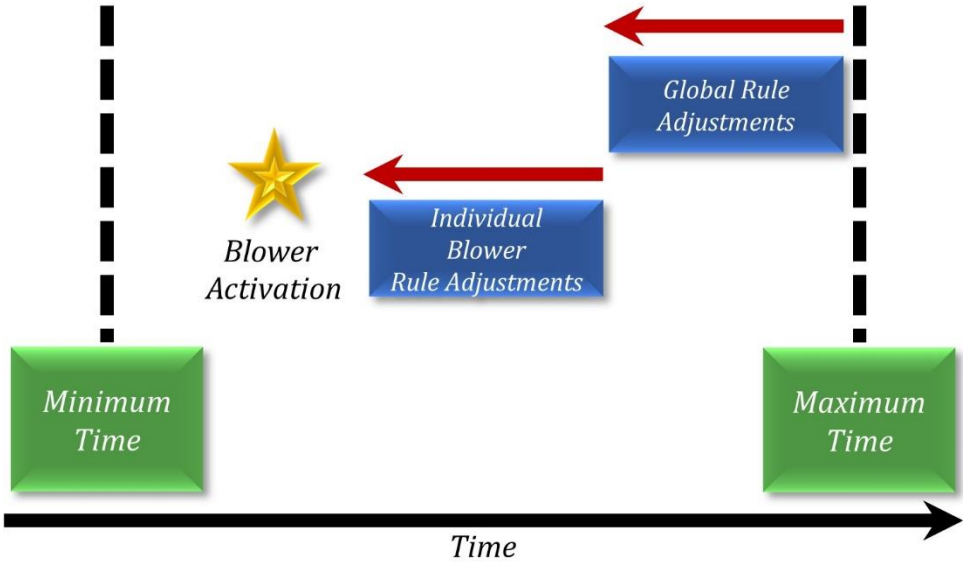
Adaptive and Intelligent Soot Management

Sootblowing at a coal-fired power plant is often a determining factor between operation being smooth and efficient or disjointed and irregular. Improperly managed soot within the boiler can lead to significant issues, resulting in increased O&M costs and loss of revenue from unplanned system outages. The conditions which affect soot buildup are constantly changing, and as such the control systems that address buildup must readily adapt to achieve adequate system performance. Griffin's Knowledge-based Sootblowing (KSB) application provides adaptive and intelligent control to any sootblowing process, achieving superior soot management leading to overall improved performance.

Knowledge-based Sootblowing

Ash formation and deposition within a furnace is directly influenced by subtle characteristics within the fuel as well as fluctuating combustion conditions. Many units and systems are not equipped to measure these parameters in real-time in a manner suitable to inform control movements. Additionally, instrumentation which measures ash characteristics in-situ can require significant maintenance due to the harsh conditions they experience, and when they are not maintained, become inoperable and provide no benefit. Avoiding the downfalls of unreliable or nonexistent instrumentation, Knowledge-based Sootblowing combines decades of operational knowledge gained through the experiences of operators and engineers with several consistently reliable indicators within the system. This combination results in an effective, adaptive, and robust soot management system capable of addressing the unique challenges faced within any individual process.

Griffin's KSB application utilizes a rule-based system to control individual sootblowers within the process. Simply improving the granularity of automated sootblower control to individual blowers often realizes large improvements to system efficiency and material degradation over traditional time-based sequences by limiting unnecessary blowing. The base application is then augmented with unit-specific global and individual blower rules to achieve highly customized responses to unit conditions automatically.



Expected Improvements

Griffin KSB applications rapidly become an indispensable control component that operations rely on during normal and abnormal operating conditions. Commonly observed benefits include:

- Consistent soot management across all operating crews, reducing many process irregularities
- Significant reduction in operator and engineer time focused on sootblower management
- Longer tube life due to reduced material erosion
- Auxiliary steam usage savings
- Improved heat transfer leading to heat rate improvement
- Fewer unplanned outages providing O&M cost savings and earlier dispatch

A Griffin KSB application immediately enhances the performance of any sootblowing system through its adaptive and robust implementation. In as little as 1 – 2 weeks, an application can be operating in closed-loop and providing benefits across your process. Regardless of the unique challenges within your system, a Griffin KSB can be configured to improve any relevant parameter. Please contact us today to learn more about your options!

Customer Testimonials

"Our previous system was sequence-based [over which] Griffin is a huge improvement, and it is maintaining [unit] cleanliness very well. We've had a few short boiler outages on our unit where Griffin is installed. I make it a point to check the reheater for slag when the unit is off. I haven't seen any issues. Before Griffin, I was walking the unit down easily once a week, sometimes more. Usually we asked Operations to blow certain lances, which required verification and a physical check to make sure it achieved the level of cleanliness that we wanted. Sometimes I would change sequences to get the boiler clean…which usually required a week or so to [do]. Before Griffin, boiler cleanliness consumed 30% of my day. Now with Griffin, I don't do any of the tweaking anymore. Griffin does it for us.

As pleased as I am with Griffin, what amazed me most was how smoothly and effectively Griffin was rolled out. It was almost seamless and very professionally done. I've never been involved, at any place I've ever worked, where a change of this magnitude was rolled out so smoothly and seamlessly across multiple shifts."

- Ben Hanneken, Engineering, Labadie Energy Center

"KSB enabled us to break away from sequence blowing [and] got rid of 25+ operator-based sequences that were overkill. Blower run more as needed now, with roughly 20-30% aux steam savings. We've been able to tune KSB rules and holds on blowers such that our units are as efficient and as clean as needed for baseload, as well as being inefficient and as dirty as needed to keep exit temps up at low loads for best ESP and SCR operation, the latter of which has made for better flexibility and turndown."

Doug Sturm, Sr Engineer, CGS Operations

Contact Us or one of our Value Added Resellers

Griffin Open Systems

Phone :

Email : sales@griffinopensystems.com

Website : www.griffinopensystems.com

Neundorfer Inc.

Phone :

Email :

Website :

Taber International

Phone : +1-440-286-1319

Email :

Website : www.taber-intl.com

SmartBurn

Phone :

Email :

Website :