BOF®: “Intelligent” Slop Detection System

Accurate slopping prediction is a critical tool in the operation of a BOF that provides steelmakers with an additional protective system to increase yield & productivity while reducing operating costs. Traditionally, operators rely on static charge models and operator experience to predict slopping occurrences. These options however, have a limited ability to predict slopping as they do not account for process dynamics and are adversely affected by uncertainties in the initial conditions.

Tenova Goodfellow’s iBOF® slop detection technology uses lance vibration analysis with real-time alerts to give steel makers advance warning of the onset of a slop and a measurement of the slop severity. The system is designed to provide direct feedback control of lance position and oxygen flow rate, for rapid mitigation of potential slopping events.

Benefits of iSDS®

- Significant reduction in number of slopping event occurrences through effective prediction and control
- Improved yield through reduced losses due to slopping
- Blow time reduction is reduced during down time for equipment cleanup/stopping when slopping occurs
- Productivity is improved with the ability to utilize optimal $O_2$ injection rate with minimal risk of slopping Fugitive Emissions into the atmosphere are reduced