

Steelmaking

Optimum Converter Refining Path corus

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SYSTEM FOR DYNAMIC MONITORING OF BOS REFINING AND DISPLAY OF BLOWING CONTROL AIDS

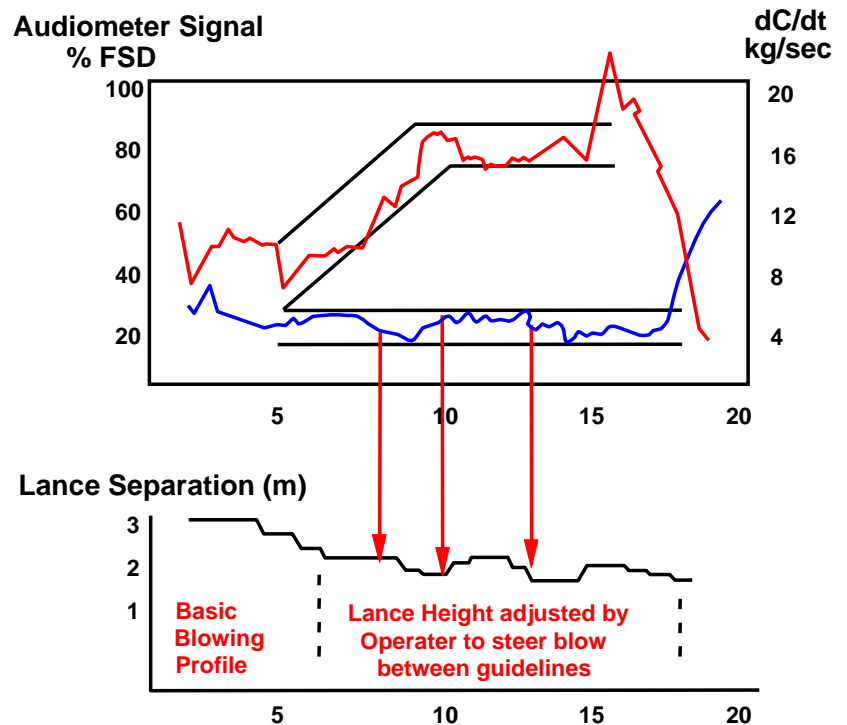
CONCEPT:-

The display of signals monitoring the progress of slag development and refining enables the vessel operator to "steer" the lance height to give more consistent blow performance from heat to heat, by following guidelines for an "ideal" refining path.

DETAILS:-

An audiometer (sonic meter) indicates slag level in the converter, while the progress of the blow is monitored by the decarburisation rate (dC/dt), calculated from the waste gas analysis and flow rate.

The oxygen blowing lance can either follow a pre-configured set of base blowing profiles based on conditions (eg. silicon, target phosphorus) under computer control, or be operated in fully manual mode by the converter operator. The audiometer and dC/dt traces are displayed graphically to the operator on a screen, and updated at regular intervals, typically every 6 seconds.



The operator moves the lance in response to deviations in dC/dt and audiometer traces about their ideal profile, to prevent loss of slag quality through drying out, or loss of yield through vessel slopping. This system is the manually-operated version of the SMART Lance closed-loop control system. Advice is given on specification and design of the system, and training given in the method of use.

BENEFITS:- Include:

- Reduces operator-to-operator variation,
- Smoother vessel operation,
- Minimises yield losses through vessel slopping,
- Improves refining control.

STATUS:- Installed and operating at all four Corus BOS shops