



Soot Blowers

Background

An inherent design flaw in early Sootblower control systems was the parallel connection of forward travel limits, reverse travel limits and local reverse out pushbuttons. The wiring of these devices made troubleshooting of a failed device difficult, and caused all blowers to be disabled until the problem was resolved. These early systems were also controlled by custom controllers with no functional flexibility. Failures normally took several hours to resolve.

KMH has automated numerous soot blower systems replacing custom controllers with DCS/PLC based systems.

Design Approach

In a typical upgrade all existing control equipment and cabling is replaced and a vigilant soot blower maintenance program is promoted. A new MCC complete with main reversing contactors for east and west soot blower buses and individual FVNR starters for each soot blower is specified. Soot blower limit switches are ungrouped to allow individual soot blower alarm indication. A new PLC may be required to control the soot blowers. PLC system design includes cable layout drawings, tray layout drawings, I/O card drawings, and PLC cabinet layouts including bills of material. Gateways devices may be required to allow DCS communication.

New DCS graphics allow the operator to operate two blowers concurrently, configure and select any sequence of individual blowers and repeat or skip operation of a particular blower within any sequence. A main soot blower graphic allows the operator to monitor all aspects of the soot blowers, including current cycle, motor loads, alarms, and steam flow to the blowers.

Scope of Supply

- PLC hardware specifications
- PLC wiring and cabinet drawings
- Cable schedules and tray routing drawings
- I/O card drawings
- Detailed logic drawings
- All PLC programming
- DCS/PLC gateway document
- Complete DCS graphic and control configuration
- Commissioning and startup services

Summary

The soot blower upgrades have been overwhelming successes. KMH meets aggressive shut down schedules and is present during start-ups.

References

- Eric Boutin, Engineering Manager, 807-475-2691

