



PULP & PAPER

A ROBOTIC SOLUTION FOR A ROUGH ENVIRONMENT

**SMELT SPOUT CLEANING SYSTEM
FOR RECOVERY BOILER**

OVERVIEW

The smelt spout area of a recovery boiler is one of the least desirable and sometimes also a dangerous place to work. However, essential regular tasks need to be carried out for efficient and smooth operation of the boiler. Smelt can cause several issues in the spout area as

it tends to coagulate and plug the spouts and needs regular cleaning. In most cases, this operation is carried out manually by the operators with long steel rods to remove solidified smelt. Splashing smelt and a hot environment may sometimes make the spout area a hazardous place to be. A combined team

of ANDRITZ design experts and workshop engineers have come up with a safer and smart solution – the smelt spout cleaning system – that enables essential work and maintenance to be performed in a harsh environment.

ANDRITZ

ENGINEERED SUCCESS

Reliable and robust solution for spout cleaning

KEY TO SUCCESS

An automated, intelligent smelt spout cleaning system will clean and maintain up to three ANDRITZ standard-spaced smelt spouts using one robotic arm. The robot is placed in front of the smelt spouts, suspended from a separate steel support structure. The tool on the end of the arm has to be individually customized according to the smelt behavior in the type of recovery boiler concerned. Safety elements were para-

mount in the design of the smelt spout cleaning system. The actual working area of the robot is isolated behind a safety fence, and the area is locked and clear of personnel when in operation. In terms of controls, the robot has a local PLC, which handles communication between the DCS and PLC as well as between the PLC and the robotic system. The robot itself can be operated via a touch panel located outside of the safety fence.

BENEFITS

- Increased personnel and process safety
- Increased availability due to the local or remote control
- More productivity due to less manual work and spout fouling
- Electronic sensor positioning
- Robot covered with protective suit to avoid smelt splashes



Smelt spout robot in showroom (left) and in operation at mill (right)

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