

Kondopoga Mill Slashes Bottom Waste

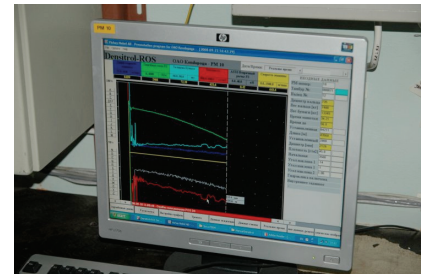
Customer: OAO Kondopoga, Karelia, Russia
Production Lines: PM8, PM9 and PM10
Paper Grades: Newsprint

Project History

In many mills, “bottom waste” or “left-on-spool” losses have been the most significant contributor to dry end shrinkage. With this chronic waste near the spool, jumbo reels are built to a larger diameter purposely—and not so precisely—to meet winder set requirements. Normally, several centimeters of unusable paper on every jumbo reel are sent to the pulper.

The Kondopoga mill has found a practical solution to this common industry problem with the commissioning of three automatic reel density optimization systems (ROS) on paper machines 8, 9, and 10. The bottom waste on all three machines has been reduced significantly, adding to saleable production. At the same time, reel snap-off breaks have been reduced or eliminated and the consistency of winding density and wound roll sheet area yield has been improved.

PM8, an 8.4 meter width Voith machine, was the first to be equipped with ROS in 2006. The PM9, a 6.72-meter width machine built at the Izhevsk Paper Machine factory in Russia, and the 6.72-meter width PM10 Beloit Belbaie IV machine were equipped with ROS in early 2008.



The real-time progress of the reel density optimization controls is shown to the operators on a control room video monitor.

Summary of Results

PM8

- Bottom waste reduced from 4.5/5.0 cm to 1.8/2.0 cm
- Production has increased 7 tonnes per day
- Wound roll density is much more uniform

PM9

- Bottom waste reduced from 4/5 cm to 2 cm
- Extra saleable production
- Reel unwinding and slitting is more uniform, with fewer winder breaks

PM10

- Bottom waste reduced from 5/6 cm to 2.5/2 cm
- Extra saleable production
- Reel breaks reduced from 5% of machine downtime to zero

Customer Comments

Roman Palikha, PM8 Deputy Superintendent says, “After our operators saw it with their own eyes they agreed it was more accurate and easier to make a reel change. Human errors are significantly reduced.”

The system has performed very reliably. “I can’t remember any technical failure,” says Vladimir Kovrigin, Manager of PM8 Instrumentation and Automation.

Vladimir Zhernakov, PM9 Superintendent, says the precise reel diameter control is major improvement from crude measuring stick methods used before. He adds, “There is more uniform winding density from the beginning to end. Reel unwinding and slitting is more uniform and there are fewer winder breaks.”

PM10 Superintendent Pavel Smyshlyaev says, “We achieved a significant improvement in the uniformity of density in our jumbo reels and wound rolls. Our reel breaks have been reduced to zero. Previously, reel breaks accounted for 5% of machine downtime. There is practically no difference in set length, and that is what our customers ask from us.”



Left to right:
Vladimir Kovrigin, Roman Palikha



Vladimir Zhernakov



Pavel Smyshlyaev

Machine and Grade Information

PM8, an 8.4 meter width Voith machine produces 42 g/m² to 45 g/m² newsprint at 1050 m/min.

PM9, a 6.72 meter width machine built at the Izhevsk Paper Machine factory in Russia, has an operating speed of 794 m/min while running 45 g/m² newsprint.

The 6.72 meter width PM10 Beloit Belbaie IV machine produces 42 to 45 g/m² newsprint at 1300 m/min.